A critical review of the proposals for reform of the education system in Hong Kong with particular reference to curriculum integration and lifelong learning

Wong, Kai Shung

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Abstract

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This thesis analyses proposals for reform of the education system in Hong Kong (the Policy). Using textual analysis, the thesis has identified two paradoxical lines of reform. The first and central line identifies the priority of the education reform. It emphasises the *inner qualities of a person* that intrinsically motivate lifelong learning. The Policy envisages that students will construct their personal knowledge through integrated learning experiences that make use of problems and issues in daily life and in the workplace. However, although the resulting educational change would be a paradigm shift, the Policy proposes low-status implementation strategies.

The second line of reform expects schools to supply flexible and competitive knowledge workers to the businesses in Hong Kong. The proposed reforms emphasise workplace generic skills and propose high-status assessments of Chinese, English, and Mathematics at different stages in the school system. This would reduce the envisioned paradigm shift to a series of tests in core curriculum subjects.

The thesis recommends that, at student level, a model of social construction of collective knowledge is needed to capitalise on student

diversity. Integrated learning experiences should focus on social and psychological principles.

At school organisational level, professional development should give priority to on-site activities based on horizontal teacher teams. The purpose is to construct the collective background knowledge that is needed to apply the formal professional knowledge required to actualise the priority of the education reform.

At territory level, innovative projects in pioneering schools could create useful background knowledge but it would be difficult to transfer this knowledge to other schools. Key personnel from these projects could work as consultants, sharing their experience with other schools. An exchange system is needed to match consultants to the needs of schools. This could also extend career options for school educators.

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WONG, Kai Shung

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Contents

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[1] The *chapter* represents the longest basic logical division of the dissertation. It is the heading at the highest level.

[2] The basic unit of an idea in the dissertation is the *paragraph*, each of which is marked by a hyphenated double number and a title. The hyphenated double number represents the chapter number and the ordinal number of the paragraph within the chapter. A paragraph is untitled if it is the only paragraph under a sub-heading, or if it serves only as a link between different parts of the dissertation, or merely as an act of beginning or ending some text.

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[3] There are three levels of optional headings between the *paragraph* and the *chapter heading*. The boxed heading with Times New Roman font, at the lowest level, groups together related paragraphs. The ***italic heading with bold Times New Roman font*** , at the second lowest level, groups together related boxed headings. The **section heading with alphabetical numbering and bold Arial font**, at the highest level, groups together related italic headings. Each optional heading is used only if headings at a lower level have been used in the chapter.

List of Acronyms

AAT	Academic Aptitude Test
AL	Advanced Level
ARD	All-round development
ASL	Advanced Supplementary Level
BCAs	Basic competency assessments
CDC	Curriculum Development Council (previously called Curriculum Development Committee)
CDI	Curriculum Development Institute
EC	Education Commission
ECR6	Education Commission Report No. 6
HKSAR	Special Administrative Region of Hong Kong
KLAs	Key learning areas
LLL	Lifelong learning
OECD	Organisation for Economic Co-operation and Development
R&D	Research and development
TOC	Target Oriented Curriculum

List of Special Terms and Conventions

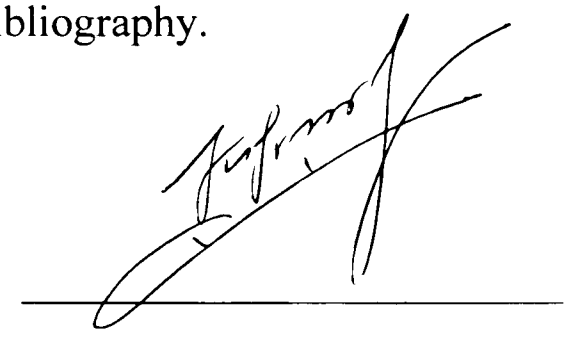
Off- line	(Of professional development activities) requiring a school educator to stop his/her daily assigned work in order to learn something not directly related to his/her job at hand
On- line	(Of professional development activities) enabling a school educator to learn something directly related to his/her job at hand and at the same time not requiring him/her to stop his/her work at hand or other daily assigned duties; an example is learning by doing
The Author	The author of this thesis
The Commitment criterion	The criterion for evaluating certain ideas proposed in the Policy against the component of the priority of the education reform "*To develop our students' sense of commitment*".
The Creativity criterion	The criterion for evaluating certain ideas proposed in the Policy against the component of the priority of the education reform "*To develop our students' creativity*".
The Effectiveness in Communication criterion	The criterion for evaluating certain ideas proposed in the Policy against the component of the priority of the education reform "*To enhance our students' effectiveness in communication*".
The Joy criterion	The criterion for evaluating certain ideas proposed in the Policy against the component of the priority of the education reform "*To enable our students to enjoy learning*".
The Policy, the Document, the Government	The Policy: (1) the plan of action, statement of ideals, etc as proposed by the Education Commission in September, 2000 and adopted by The Chief Executive of the Special

	Administrative Region of Hong Kong in October 2000. Often for convenience, *the Policy* is used according to the context to denote (2) the document containing the text that states the above plan: or is personified to mean (3) the fuzzy complex of people in the Government acting as the policymakers and social planners of the education reform proposed in the above document. Sometimes *the Document* will mean (2) above and *the Government* will mean (3) above.
The Priority	The priority of the education reform: Our priority should be to enable our students to enjoy learning, to enhance their effectiveness in communication, and to develop their creativity and sense of commitment. (EC, 2000, p. 4).
The Writer	The complex of people who put into words the ideas of the Education Commission to form the Policy document. (See "the Policy" in this table.)

All page references	Also all page references in parentheses refer to pages in the Policy document, unless otherwise stated. (See "the Policy" in this table.)
All paragraph references	All paragraph references in parentheses refer to paragraphs in this thesis, unless otherwise stated.

Declaration

I hereby declare that this thesis represents my own work and that it has not been previously submitted to the University of Durham or any other institution in application for admission to a degree, diploma or other qualification. No other researchers have contributed to this thesis in any way except those acknowledged in the bibliography.



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Chapter One:

Introduction

1-1. This dissertation is a critical analysis of the policy (hereafter called *the Policy*) of lifelong learning (LLL) and all-round development (ARD) developed by the Education Commission (EC) (EC, 2000), the non-statutory advisory body on the overall development of education in Hong Kong, from 1997 to 2000, and adopted in 2000 by the Chief Executive, the *de jure* head of the Government of the Special Administrative Region of Hong Kong (HKSAR) of the People's Republic of China (PRC) (Tung, 2000). Its implementation is expected to have a wide impact on the whole Region for at least a decade. Basic education is the focus of the Policy and hence also the focus of the analysis. This chapter provides a brief general description of the Policy, the relevant educational context in Hong Kong, and the relevant context of professional development.

About the Policy

1-2. General Context in Hong Kong: A paragraph from *Learning for Life (Review of Education System: Framework for Education Reform)*, an official document published in 1999 by the EC reads as follows:

> Society is undergoing fundamental changes. As it transforms from an industrial society into an information society, and as our economy shifts its emphasis from manufacturing to knowledge-based activities, knowledge has become an essential element of our daily lives and our economy. Knowledge is being created all the time. New knowledge continues to emerge, as existing knowledge becomes obsolete. Learning is no longer confined to school subjects or limited to classrooms; learning is no longer the prerogative of those aged 6 to 22. The age of lifelong learning has dawned (EC, 1999b).

The passage is a belated description of an important aspect of the local context in Hong Kong. It provides the context in which a large-scale education reform is beginning to take place in the early years of the 21st century.

1-3. Initiation of Educational Review: Mr Tung Chee Hwa, the first Chief Executive of the HKSAR, advised by the Central Policy Unit and the Education and Manpower Bureau, formally initiated the education reform in his first Policy Address in 1997, immediately after the unification of Hong Kong with the People's Republic of China, ending 156 years of British colonial rule.

> In the coming year, we will:
>
> - ask the Education Commission to begin a thorough review of the structure of pre-primary, primary, secondary and tertiary education,

addressing the age at which students should begin each stage of education: the duration of the various stages; the curriculum and the interface between stages. It will also consider the matter of four years of tertiary education;

- review our examination system to take account of students' performance at schools so that their achievements will not be determined by a single examination; and
- ask the universities to review their admission criteria for undergraduates to give recognition to excellence in extra-curricula areas, such as community service, arts and sports. (Tung, 1997).

In 1997, the EC began by studying the aims of education and in January 1999, began to publish a series of four major documents: Education Blueprint for the 21st Century. The first three were consultative documents leading to the fourth, which was a policy proposal from the EC to the HKSAR government. This last document, very significant to the current education reform and the consequential curriculum reform, was

Learning for Life: Learning through Life: Reform Proposals for the Education System in Hong Kong. (EC, 2000).

The term *the Policy* in this dissertation refers to (1) the plan of action, statement of ideals, etc as proposed by the EC in September, 2000 and adopted by The Chief Executive of the HKSAR in October 2000. Often for convenience, *the Policy* is used according to the context to denote (2) the document containing the text that states the above plan; or is personified to mean (3) the fuzzy complex of people in the Government acting as the policymakers and social planners of the education reform proposed in the

above document. Sometimes *the Document* will mean (2) above and *the Government* will mean (3) above. Also all page references in parentheses refer to the Policy document, unless otherwise stated. All paragraph references refer to this dissertation, unless otherwise stated.

1-4. Lifelong Learning and All-Round Development as Umbrella Concepts: The EC started in 1997 by looking at singular concerns related to tertiary, secondary, primary and early childhood education. The ensuing discussions revealed that means to address these concerns were interrelated within a much more important agenda of how the education system should be transformed so as to address the fundamental changes society is going through, as seen from the quotation in Paragraph 1-2. A framework of LLL and ARD was developed to put the initially narrow singular concerns under a much more encompassing umbrella.

1-5. The Problems to Be Solved: While realizing that increasingly more graduates in their early careers – except medical doctors – are changing into jobs that they were not trained for, that continuing education institutes at the tertiary level are expanding at a tremendous pace, and that many people in their mid-lives, after losing their jobs, find it difficult to find alternative careers, the EC was also aware that over twenty thousand young people every year were unable to pass a single subject at School Certificate level. The EC recognised that something must be done to

strengthen the opportunities for education for all young people in their late teens and early twenties and something must also be done about school education so that all students would be better prepared and motivated to learn lifelong, not only for their own future survival but also for the future prosperity of Hong Kong at large in the new global economy. Providing educational opportunities for young people was not just a matter of increasing enrolment for people of the relevant age. The universities had already been complaining about the quality of secondary school graduates who were admitted to tertiary education. Simply increasing tertiary enrolment might lead to high failure rates or adversely compromise tertiary standards. Preparing school-age students for LLL was a more fundamental policy. Secondary school educators had their stories to tell, generally identifying students' lack of motivation to learn as teachers' key difficulty in teaching. Societal over-emphasis on short-term academic results in high-stake public examinations, from university admission level to secondary school place allocation level, was seen as one of the chief causes of subsequent problems.

> All in all, despite the huge resources put into education and the heavy workload endured by teachers, learning effectiveness of students remains not very promising: learning is still examination-driven and scant attention is paid to "learning to learn". School life is usually monotonous, students are not given comprehensive learning experiences with little room to think, explore and create. The pathways for lifelong learning are not as smooth as they

> should be. To make up for these weaknesses, we need to uproot outdated ideology and develop a new education system that is student-focussed. (p. 4)

Thus the Policy, and hence the dissertation, place emphasis on basic education, while not excluding related issues in other areas.

1-6. The Priority of the Education Reform: The EC, with feedback from the public, modified an earlier statement to establish the following aims of education for Hong Kong for the 21st Century:

> To enable every person to attain all-round development in the domains of ethics, intellect, physique, social skills and aesthetics according to his/her own attributes so that he/she is capable of lifelong learning, critical and exploratory thinking, innovating and adapting to change; filled with self-confidence and a team spirit; willing to put forward continuing effort for the prosperity, progress, freedom and democracy of their society, and contribute to the future well-being of the nation and the world at large. (p. 4).

While the above is a formal statement of the aims of education, the widespread version of the aims of the reform is briefly summarised from over 14,000 submissions in the first-stage public consultation in 1999:

> Our priority should be to enable our students to enjoy learning, to enhance their effectiveness in communication, and to develop their creativity and sense of commitment. (EC, 1999b, p. 15).

This priority of the education reform is re-stated in the Policy document (p. 4, 30). Hereafter, *the Priority* (joy, communication, creativity, commitment) will be used throughout the dissertation to refer to this priority. The dissertation will focus on the Priority, especially when applied to basic education.

1-7. Vision of the Reform: At a systemic working level, the EC had the following vision:

- To build a lifelong learning society: . . .
- To raise the overall quality of students: . . .
- To construct a diverse school system: . . .
- To create an inspiring learning environment: . . .
- To acknowledge the importance of moral education: . . .
- To develop an education system that is rich in tradition but cosmopolitan and culturally diverse: . . . (p. 5).

1-8. Principles of the Reform: The following principles were adopted in formulating reform proposals:

- Student-focused
- No loser
- Quality
- Life-wide learning
- Society-wide mobilisation (p. 6)

1-9. Reform Proposals for Basic Education: As a general blueprint for the education reform, the EC proposed to reform the academic structure, the curricula and the assessment mechanisms at various stages of education and the interface between different stages. In particular, for nine-year basic education the EC proposed (1) to reform the school curriculum and improve teaching methods; (2) to create basic competency assessments (BCAs) in Chinese, English and Mathematics; (3) to change the Primary One admission system and the secondary school places allocation system;

and (4) to create a voluntary *through-train* model to link some primary and some secondary schools (p. 15 – 18).

1-10. "Uprooting Outdated Ideology": The following key clauses and phrases scattered throughout the Policy summarise what the EC, with *uprooting outdated ideology* (p. 4) in mind, identified as important for basic education:

- developing students' *basic lifelong-learning abilities and attitudes* (p. 31, 57)
- *construct a core of basic knowledge* (p. 31, 36)
- *develop multiple abilities* (p. 37, 101, 150) instead of just preparing them for subject-based examinations
- effective assessment (eg p. 9, 10)
- basic standard (p. 31, 37, 46, 67, 68)
- all-round development (eg p. 13, 30)

The Relevant Local Educational Context

Nature of the Local Curriculum:

1-11. Relevance to the Stated Priority of the Education Reform: The stated priority of the education reform is "to enable our students to enjoy learning, to enhance their effectiveness in communication, and to develop

their creativity and sense of commitment" (p. 4). This makes the school curriculum an area of direct concern of the Policy. Knowing the nature and history of the local curriculum also has implications for understanding the kind of research taken up in this dissertation.

1-12. A Key Feature of the Local Curriculum: Morris and Chan (1997) describes the nature of the local school curriculum as

> . . . dominated by an ideology akin to that described by Eisner (1992) as 'academic rationalism', and by Bernstein (1975) as a 'collection code' curriculum. The latter involves a strong frame (low level of control by teachers and pupils of pedagogy), strong classification (in terms of the extent of isolation between subjects), and strong boundaries to the influence of the outside world. (Morris and Chan, 1997, p. 249).

The EC (1990) similarly uses *fragmentation and compartmentalisation* to describe the curriculum. The EC ascribes the phenomenon to a quantitative cause.

> . . . the range of discrete subjects offered is too wide and this results in fragmentation and compartmentalisation of the curriculum. . . . The answer, we believe lies in pursuing further the integration of subjects at both primary level and junior secondary level where this is possible. (EC, 1990, p. 13).

A Historical Link between Curriculum Integration and Lifelong Learning:

1-13. To address the issue of fragmentation, people embark on the concept of integration. This is what the education authority in Hong Kong has attempted to do since the 1990s. This also relates well with the current Policy, which advocates lifelong learning; the relation is one of long-term

interdependence between lifelong learning and curriculum integration at the international level.

1-14. Common Values: In the 1970's, UNESCO advocated lifelong learning/education. Ingram (1979), Hameyer (1979), as well as Skager and Dave, with contributions by Robinson (1977) [1] found that lifelong learning/education and curriculum integration had common values and were interdependent. The common values were:

(1) the person should be at the centre of education;

(2) school and society should have better cohesion;

(3) change was inevitable and ubiquitous; and

(4) the enterprise of education should be cooperative (Ingram, 1979).

The current Policy also recognises the coming of the information age and plans to coordinate all roles in education so as to promote all-round development of the individual.

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[1] Regarding the works of Ingram (1979), Hameyer (1979), as well as Skager and Dave (1977), reference can be made to the Bibliography. A publisher of these works was UNESCO Institute for Education at Hamburg. While its programme was established along the lines laid down by the General Conference of UNESCO, the Institute was a legally independent entity. The other publisher is UNESCO Division of Structures, Contents and Methods of Education at Paris. These works are considered as international. It is because of the association with the UNESCO and width of the distribution of the authors – Ingram from Bradford College, UK; Hameyer from the Institute of Science Education, Kiel; Skager from the University of California, Dave from the National Council of Educational Research and Training, New Delhi and the International Institute for Educational Planning, Paris.

1-15. Interdependence: The interdependence of lifelong learning/education and curriculum integration was based on two observations:

(a) Lifelong learning/education was idealistic in nature. It concerned the societal level of education. It presented itself as values, principles and guidelines for organising development in education and the curriculum. It lacked a set of practices at the school level to embody the principles and guidelines.

(b) Curriculum integration was practical in nature. It concerned the school level of education. The curricular practices were

> developed largely on the basis of teachers' dissatisfaction with the increasing fragmentation of the school curriculum, their unease about the dissociation of what is taught in school and what is experienced in life, their despair at the practical difficulties raised by the proliferation of knowledge, and so on. (Ingram, 1979, p. 20).

It needed an overarching philosophical frame for wider societal support.

This interdependence probably explained why curriculum integration was popular internationally in the 1970's. The current Policy also advocates "shifting from *compartmentalised subjects* to *integrated learning*" (p. 61).

Integrated Subjects in Hong Kong in the 1970s:

1-16. Hong Kong also introduced curriculum integration in the 1970's as a response to the call for universal basic education. It took the form of new subjects of Integrated Science and Social Studies, both at the lower

secondary level. The Integrated Science course, which emphasised general science skills rather than subject content, was introduced from Scotland with the intention of gradually replacing the academic subjects of Physics, Chemistry, Biology, and General Science at this level. The government allocated generous resources to the implementation and revision of the new curriculum. By 1990, 98% of secondary schools had adopted the integrated subject. The meaning of curriculum integration as creation of a new subject through merger of existing subjects became widely assumed.

1-17. No Fundamental Curricular Change: Conceptualising curriculum integration in this way, the government's solution subsequently produced no fundamental curricular change. This was immediately recognised by Tam (1975), who pointed out the lack of diversity in the scope of the integration model.

> One aspect that the Curriculum Development Committee has not done properly is to concentrate all its efforts on adapting one single foreign curriculum project, at the expense of not considering at all the merits of other integrated science projects. This limits the scope of integrated science to the extent that teachers would be inclined to view integrated science solely as the adapted course but nothing else, and the approach of this particular course as all approaches to integrated science. (Tam, 1975, p. 155).

By the 1980's, the initial part of the resource input from the government ended. Integrated Science was gradually incorporated into the local curriculum culture of content-heavy isolated subjects, especially in schools with insufficient laboratory facilities (Hung, 1988). Academic rationalism

and the reliance on the collection-code curriculum (Paragraph 1-12) was manifested by the fact that

> At Secondary 3 level [the last of three years of lower secondary education], however, about 40% of schools revert to teaching Biology, Chemistry and Physics as separate subjects. (EC, 1990, p. 11).

1-18. A Similar Case: The academic subjects History, Geography, and Economics were similarly *integrated* by the government into Social Studies. Again, the curricular culture placed importance on content and territories of subjects.

> In contrast, Social Studies . . . has not been so well received. Only around 20% of secondary schools offer the subject. We understand that there are two reasons for this. First, many schools believe that the Hong Kong Certificate of Education Examination (HKCEE) results of their students who switch to separate subjects at Secondary 4 will be adversely affected if Social Studies, rather than the separate component subjects, is taught at junior secondary level. Secondly, teachers find Social Studies difficult to teach since it is a multi-disciplinary subject in nature while their education, especially at the tertiary level, has been confined to one or two disciplines. Thus, principals have difficulty in finding suitable teachers willing to teach this subject. (Education Commission, 1990, p. 11).

1-19. Perspective from a Typology of Curriculum Integration: At this point, it is be useful to note a relevant typology of curriculum integration so as to maintain a critical stance on the local history of curriculum integration and, hence, lifelong learning. Ingram (1979) describes a hierarchy of types of curriculum integration. At the highest level, the types are classified as either structural or functional.

	Structural Type	Functional Type
1.	Integration is conceived as a reorganisation of the structure of knowledge within the curriculum	Knowledge is viewed as a resource to be used for the promotion of integrative experiences
2.	Teacher-centred	Pupil-centred.
3.	Follows from logical and epistemological considerations.	Follows from psychological or social considerations.
(Ingram, 1979, p. 28)		

A broad distinction is that the structural type focuses more on the written integrated curriculum as a logical and epistemological product while the functional type focuses more on experiential integrative learning and on teaching as a psychological and social process in the classroom.

1-20. The Structural Type: The structural type is further divided into the quantitative category and the qualitative category. The former, eg the modular arrangement of reorganised disciplinary materials, respects the structures of the contributing independent disciplines. It breaks up the timetable into smaller units so as to accommodate more subjects, increase flexibility for student choices, or force balanced student choices in a school curriculum. The latter, eg Mathematics, rearranges disciplines, eg Algebra, Geometry, in broad fields using key concepts, eg set, and principles, eg symmetry, of the subsuming field common to the contributing disciplines. The disciplines lose their structures, but the territorial mentality remains and merely shifts from the discipline to the broad field. The prime function

of education remains academic and cognitive rather than shifts to the student as a person. The curriculum integration of both the Integrated Science and the Social Studies curricula can be seen as a qualitative structural type.

1-21. The Functional Type: The functional type is further divided into the intrinsic category and the extrinsic category. The former focuses "on the individual as a learner and involves motivation and interest (Ingram, 1979, p. 37)". The latter relates "to ways in which the individual deals with issues in the social context in which he lives" (Ingram, 1979, p. 37). The Policy is very much concerned about joy, interest, and motivation of learning as well as commitment to society. With reference to the stated priority of the Education Reform in Hong Kong, it can be judged that the functional type of curriculum integration is of immense value, especially the intrinsic category.

Cross-Curricular Subjects in the 1980s:

1-22. Official Discourse: Related to the functional type of curriculum integration, the government introduced *cross-curricular subjects* into the school curriculum in the 1980s – Moral Education, Civic Education, Sex Education, and Environmental Education. Official curricular guidelines indicated features of functional curriculum integration: (1) related to personal and social issues; (2) the use of a 'permeated' approach –

inclusion in and across existing subjects; (3) responsibility spread to all teachers and not just some particular teachers; (4) the use of interesting methods of teaching, such as dramatization, role play, data-based analysis, issue-based teaching, experiential learning and brainstorming (Education Department, 1981; Curriculum Development Committee, 1985, 1986; Curriculum Development Council, 1992).

1-23. Researchers' Views: On the other hand, there is strong negative research evidence that due effort was not paid to integrate the school curriculum in a functional mode.

> a. The vast majority of respondents (76.7%) [of 194 History teachers] reported that they had never discussed the Guidelines with their Panel chairperson . . . (Tang and Morris, 1989, p. 45).
>
> b. A failure in most schools to introduce key elements of the policy, such as the introduction of school wide coordinators and committees to promote the themes (Fung and Lee 1993). (Morris and Chan, 1997, p. 252).
>
> c. A . . . study on civic education (Curriculum Development Institute, 1995) noted that the focus in schools was on the provision of 'civic knowledge', rather than on 'moral judgements' and 'social justice'. (Morris and Chan, 1997, p. 252).
>
> d. Only 31% of the respondents had attended any in-service training courses . . . (Tang and Morris, 1989, p. 45).

Thus, the discourse in the official curriculum guideline promoting functional curriculum integration was essentially neglected in the culture of academic rationalism and subject fragmentation.

Integration of Subjects in the 1990s:

1-24. By the 1990s, the Education Commission (EC, 1990) recommended the strategy of integration of subjects. A stated purpose of the strategy was that of intrinsic functional curriculum integration:

> Teaching may be readily related to students' experience through integrated studies. Students should therefore find these studies more interesting and relevant than a compartmentalised subject-based curriculum. (EC, 1990, p. 12).

The recommended strategy of implementation, however, was structural, as illustrated by the following statements:

> Through integration, related areas of learning now taught separately under different subject disciplines may be grouped together. The reduction in the number of subjects taught provides schools with more flexibility and curriculum "space" . . .(EC, 1990, p. 11).

The primary school subjects of Social Studies, Primary Science and Health Education were then merged into a single subject of General Studies. This incoherence of purpose and strategy shows that even by the 1990s, the Education Commission still took merger between related subjects as the only operational model of curriculum integration. Tam (1975) was far-sighted.

The *Target Oriented Curriculum* (TOC):

1-25. The Education Commission (EC, 1990) introduced a curriculum reform in the 1990s. It began as a huge attempt to reform the local assessment system in the subjects of English, Chinese, and Mathematics.

Griffin, *et al* (1993, p. 16) described this Targets and Target-Related Assessment (TTRA) as "one of the most ambitious changes attempted by an education system". The focus of TTRA was not directed at curriculum integration but it made an attempt to thread *five fundamental integrative processes – inquiring, conceptualising, reasoning, problem-solving*, and *communicating* (Clark, 1993, p. 1) – on to the three subjects. In other words, TTRA tried to set some general standards on learning in different subjects.

1-26. Elements of TTRA: The rationale of TTRA was to replace the selective assessment system at primary and lower secondary levels with one that would supply information for multiple purposes. The Education Commission (EC, 1990) listed the main elements of TTRA as

a. Four key stages: each with a terminal target-related assessment based on criterion-referencing principles - at P.3, P.6, S.3, and S.5

b. Subject domains, levels of attainment, and targets: Each subject would be divided into domains. Within each domain, broad targets at different levels of student achievement would be set.

1-27. Heated Debates: TTRA created heated debates. For example, 鍾 [Zhong] (1993) articulated that, although over 95% of the student population was Chinese, Chinese language had been treated more like a second language while English was more like a first language. 谢 [Xie] (1993) pointed out the insufficiency of professional development and research in the face of high incompatibility between the existing culture of

teaching and learning on the one hand and what TTRA advocated on the other. Cheung (1993) found that the Mathematics attainment targets had knowingly excluded practical tasks, real life problems, and investigations, indicating unwillingness to initiate change. Practitioners, eg To (1993), 鄒 [Zou] (1993), and 潘 [Pan] (1993) also listed practicability difficulties and items of neglect in the management of change. Debates became increasing heated.

1-28. Fundamental Structural Weaknesses in Organisational Professional Development: Facing insurmountable difficulties, the government shifted its initial reform focus from assessment to aims and pedagogy in the curriculum. TTRA was then renamed TOC – Target Oriented Curriculum. In 1995/96, Morris *et al* carried out a comprehensive evaluation of TOC. It showed that, at the organisational level, insufficient attention had been paid to the growth of professional knowledge within and between organisations.

> - In most schools the decision to join TOC involved little or no input from teachers. . . .
> - The post of TOC co-ordinator was vital . . . . They provided a relatively clear middle management role for some innovative teachers. . . . The efforts of a dynamic school head were sometimes effectively negated by a TOC co-ordinator who was less enthusiastic and vice versa. . . .
> - The absence in most schools of a school library places a severe limitation on the range of materials and resources available to both teachers and pupils. (Morris *et al*, 1996, p. 241—242).

Despite this, some schools managed to develop their *ad hoc* tactics, eg teamwork.

> Some schools developed innovative strategies to support teacher collaboration and engagement in curriculum development. These included the timetabling of common free periods to allow all TOC teachers to meet and develop materials and the expectation that TOC teachers would teach more than a single TOC subject.

1-29. Little Fundamental Change: Overall, there was little fundamental change at the classroom level. For example,

- Group work and individual work was comparatively rare;
- The use of strategies which recognised that pupils might learn in different ways . . . was rarely evident;
- Tasks were not strongly contextualised;
- It was especially difficult to distinguish between *problem solving*, *reasoning*, and *inquiring*;
- Teachers showed a limited understanding of the nature and purpose of formative and criterion-referenced assessment. (Morris *et al*, 1996, p. 243).

TOC and its related discourse quietly disappeared in the late 1990s. The three subjects of Chinese, English, and Mathematics remained insulated from each other and from other subjects. The attempt to set common standards of learning through the use of fundamental integrative processes remained distant from realisation. It is clear that TOC and previous attempts of curriculum change could not satisfactorily address issues of academic rationalism and curriculum fragmentation. It is against this historical background that the proposals for reform are reviewed in this dissertation.

1-30. Orientation of this Dissertation: A legacy from TOC is the general impression that educational policy in Hong Kong sets appropriate directions for development but it is always implementation that is problematic. When the current Policy document was published in 2000, judging from general public responses, the above general impression still prevailed. Indeed, many of the ideas proposed in the Policy echo well with popular international discourse on lifelong learning and the public is happy that Hong Kong is moving with world trends. Morris and Scott (2003) may not agree with the public opinion. Morris observes that the standard cycle of an education reform in Hong Kong has four overlapping stages: (1) problem identification, (2) strong criticism of the object of change, (3) policy statement spelling out the need for change, and (4) translation into policy actions.

> The first three stages . . . often involves the identification of a specific group of providers who are the source of the problem and the target of the policy solution. Schools, teachers and teacher educators have all been identified at various stages by the government as the cause of one or more of the problems. This allows a clear policy solution to be identified (for example, testing teachers' language standards by attempting to 'benchmark' them) and ensures that little 'blame' is directed at the government itself. (Morris and Scott, 2003, p. 81).

The paper of Morris and Scott (2003) observes general trends and does not attend in detail to the ideas proposed in the Policy. The dissertation attempts to cover this unattended aspect of the paper, ie the ideas directly

proposed in the Policy, by identifying human limitations and inconsistency in policymaking. At the same time, the dissertation admits the unavoidability of human imperfection in policymaking and aims at clearing the ground for a new judgement for improving subsequent implementation and identifying future policy agenda. It is not a sceptical rejection of the Policy.

Division of Society:

1-31. Social Division: Fragmentation in the school curriculum is not a singular feature of society in Hong Kong. Division of society has been increasing to alarming conditions in the past decade. For example, practices of accountability, value for money, downsizing, decentralisation, privatisation, marketisation, and corporatisation, plus the post-1997 Asian economic turmoil, have resulted in insecure jobs, salary cuts, and increase in unemployment (Mok and Lau, 2002; Information Services Department, 1997, 1998, 1999, 2000, 2001). The Gini coefficient, which measures income discrepancy in Hong Kong at five-year intervals, was found to be the worrying figure of 0.525[2] in 2001 (So, 2001, July 27). In fact the Gini coefficient has been found to be steadily rising since 1991.

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[2] A Gini coefficient ranges from 0 to 1. A large value indicates high income discrepancy while a small value indicates low income discrepancy. Any value close to or higher than 0.5 is considered as warning signs to society.

> The Gini coefficient of household income distribution in 2001 was 0.525, which was slightly higher than that of 0.518 in 1996. The corresponding figure for 1991 was 0.476. (Census and Statistics Department, 2001).

1-32. Political Division: The political scene is no less divided. Hong Kong was a-political at colonial times (Sweeting, 1995) and, after unification with China, has been expected by Beijing to serve greater China as a depoliticised "economic city" (Kennedy, 2004). However, many cultural-constitutional issues have been arising as evidenced by explicit differences in the interpretation of the Basic Law, which is to prescribe the systems to be practised in the HKSAR, as part of the PRC, after 1 July 1997. For example, the most serious conflict arose when the attempt by the Government of the HKSAR to develop laws "to prohibit any act of treason, secession, sedition, subversion against the Central People's Government, . . ." (PRC, 1991, p. 16--17) led to a street demonstration of 500,000 people on 1 July 2003 (Cheung and Lee, 2003, July 2).

1-33. Need to View the Curriculum from a Fundamental Social Perspective: Such divisions in society calls not just for curriculum integration or lifelong learning in any narrow sense but also for the kind of social learning that can create consensus and harmony and for "learning to live together, learning to live with others, and learning to be (Delors, 1996, p.86)". It is also necessary for the dissertation to review the proposals for reform from this social perspective.

1-34. The Dissertation as a Policy Research: The local history of curriculum development and the social context inform the positioning of this dissertation among other kinds of research processes. First, it aims to review features of the school system so as to address social issues that are fundamental rather than merely technical. This need to address fundamental social issues is also a response to what the Policy sees as a necessary condition for the education reform – a paradigm shift in learning and a societal cultural change (p. ii, 40-41). Secondly, the positioning of the dissertation views schooling and the curriculum in a holistic manner, relevant to the common philosophy of lifelong learning and functional curriculum integration. To do this, the required research values the importance of action. This is because an action orientation authentically brings in the necessary elements from different disciplines that might be traditionally territorialized, as mentioned earlier on. Under Majchzak's (1984) classification of research processes affecting social problems, this dissertation is neither a policy analysis nor a basic research, neither of which are action-oriented. Nor is it a technical research, which is structured to solve a very specific, narrowly defined problem. This dissertation is a policy research; it focuses on action to address fundamental social problems.

Relevant Features of the Context of Professional Development

1-35. Lifelong learning is a central theme of the dissertation. Although the dissertation focuses on basic education owing to its immense implication on learning throughout one's lifespan, there are certain other aspects of lifelong learning that carry direct and very significant influence on basic education, namely school educators' professional development, and, more generally, pioneering work on continuing professional education.

Context of Professional Development of School Educators at the Time of Formulating the Policy for Reform:

1-36. Policy Predominance: The systemic professional development of school educators was essentially all driven by government policy, which could be traced back to the recommendations of Education Commission Report No. 5 (ECR5) in 1992, at about the same time as the TTRA. The focus of the report was to attract and retain people of good quality in the teaching profession through establishing the autonomous Institute of Education, formalising and giving recognition to courses, and linking courses to create qualification progressions (EC, 1992). The salient contribution of the then established Institute of Education was its share in upgrading non-graduate courses to the university degree level and enhancing the percentage of graduate posts in local primary schools from 4.8% in 1997 to 35% in 2001 (Tung, 1997; 2001).

1-37. Traditional Assumptions: In the text of ECR5, it can be observed that the word "course(s)" has been exclusively used as the format of teachers' professional development in Hong Kong; there is no proposal of any new format. The basis for distinguishing different courses is seen to be whether they are pre-service or in-service, whether they are degree or sub-degree courses, whether they are accredited, which official organisations are to organise them, and the length of contact hours. This indicates that ECR5 has a traditional assumption about professional development: that it is always organised with the individual school educator attending some course provided by some well-established educational organisation outside the school. The concept of work-based learning, individual or collective, is completely absent from the consideration of the EC and so is that of management of knowledge by the school. The current Policy argues for students' active construction of knowledge in real-life learning experiences rather than passive reception of information vicariously. It is reasonable to assume that this argument also applies to school educators since school educators are expected to be very significant learners themselves in a reform and paradigm shift and cultural change. It is thus necessary to see whether the traditional concept of *course(s)* for school educators has been adequately reviewed in the Policy from this perspective.

1-38. School Management: ECR5 also discusses on school management, especially the School Management Initiative launched by the

government in 1991. This initiative gave free hand to schools in managing its own affairs, with greater accountability. However, there is no explicit indication in ECR5 that the management of a school includes its own human resource development, albeit ECR5 is about school educators' professional development. At the time of formulating the current Policy, what school management usually did was (1) asking teachers to attend courses relevant to his/her school subjects, (2) selecting the applicant with the appropriate subject expertise and personality at initial job appointment of teachers, and (3) making use of at most three staff development days with limited budget.

The Wider Context of Continuing Professional Education in Hong Kong:

1-39. Market Predominance: The wider context of continuing professional education in Hong Kong is diametrically different to that of school educators' professional development. Development before the mid-1990s was piecemeal and rarely policy-driven (Holford, 1998). In a forum in 1999, the Federation for Continuing Education in Tertiary Institutions presented its recommendations. The government accepted many of them but provision was to remain market-led and self-funded (Holford, 1998; Cribbon, 2002). The financial autonomy, however, might have its advantage.

1-40. Pioneering Work: The market of continuing professional education in Hong Kong is pulled by demand. In contrast with the supply-driven traditional governmental large-scale orientation of ECR5, Young (2002) points out that work-based learning programmes have been introduced into the School of Professional and Continuing Education, The University of Hong Kong (HKU SPACE), as a pioneering effort; work-based learning turns "the tacit knowledge of working adults into rigorous academic attainments" (Young, 2002, p. 140). Dendle (2002) gives the example of a joint effort with the UK National Centre for Work-Based Learning Partnerships at Middlesex University to provide a progression route for diploma holders in the field of recreation and sports management. Raddon and Sung (2002) goes further to describe how the Mandarin Oriental Group, a leading company in Hong Kong, has re-defined work roles, job skills and a culture of learning in a new system of organisational management.

International Literature:

1-41. Growing Attention on Tacit Knowledge: Ever since Michael Polanyi (1967) first used the term *tacit knowing* to identify the kind of knowledge that the knower is not able to describe, eg recognizing faces, the concept of knowledge has acquired a new dimension and this dimension is

increasingly associated with the learning of the professional practitioner and the creation and mediation of knowledge of innovative organisations.

1-42. Emergence of a New Kind of Learning: Teaching is often considered as a professional art and Schön (1987) advocates that teaching professional artistry should be carried out through the process of reflection-in-action, which emphasises critical conscious reflection on the part of the practitioner after being surprised by an unexpected outcome that does not fit routine knowledge. Hager and Beckett (1998) articulates clearly the need for the kind of informal learning in the workplace that brings together the following characteristics:

- The contingent (rather than exclusively formal, sustained, and systematic studies)
- The practical (rather than the exclusively theoretical)
- The process (rather than exclusively the assimilation of content)
- The particular (rather than the exclusively universal and *a priori* as the 'context')
- The affective and the social domains (rather than exclusively the cognitive domain). (Hager and Beckett, 1998, p. 230).

One way to bridge the gap between traditional university education and the new kind of professional learning is work-based learning. Boud (1998) gives examples and considers dilemmas. Among them, transferability of professional knowledge between different contexts is seen as significant and difficult. OECD (2000) points out that teachers rely very much on

their tacit knowledge but their professional knowledge needs are insufficiently met by high-status knowledge from the social sciences.

> Schools of Education tend to be staffed on the one hand by teaching specialists with experience of practice and on the other by academic psychologists, sociologists and others in "foundation disciplines" with optimism from the 1960s that the latter group could apply theoretical social science to education but in practice the irrelevance to every day teaching brought theories into disrepute . . . . One difficulty is that teachers lack a clear scientific knowledge base, and rely largely on personal experience although increasingly they are given materials to influence their work, but it is unclear how far these transform shared knowledge into changed practice and in the confusion teachers still rely on personal tacit knowledge, but fell attacked. (OECD, 2000, p. 42--45).

Gibbons *et al* (1994) analyses the dynamics of science and research in contemporary societies by identifying a new mode (Mode 2) of transdisciplinary production of knowledge that has evolved from the familiar discipline-based one (Mode 1) in universities. Mode 2 is diffused over a wide range of potential sites of knowledge production and different contexts of application. It is all embodied in people and the ways they are interacting in socially organized forms. Similarly Lam (1998), quoted in Aalst (2003), distinguishes two contrasting knowledge systems – the professional model and the organisational model; the latter is featured as being (1) concrete, practical and integrative, (2) shared by members with common experience and values, (3) difficult to diffuse to different contexts, and (4) tacit and human network based.

1-43. Tacit Knowledge, Innovations and Change: Nonaka and Takeuchi (1995) analyses the dynamics of innovations in detail in Japanese industries by conceptualising the conversion processes (1) from explicit knowledge to tacit knowledge as *internalization*, (2) from tacit knowledge to explicit knowledge as *externalization*, (3) from tacit knowledge to tacit knowledge as *socialization*, and (4) from explicit knowledge to explicit knowledge as *combination*. Leonard (1995) describes the structuring of the working environment in highly innovative companies using the concept of creative abrasion, by which interdisciplinary teams of experts of very special skills – called signature skills – are managed to create knowledge-embedded products.

1-44. Horizontal Teaming: OECD (2004) sees innovation as crucial source of development and innovation. Innovation is "fuelled" by "four pumps": science; horizontally organised collaboration; freedom to innovate yet joined together as a whole; and information and communication technologies. Regarding horizontally organised collaboration of practitioners, many writers describe the working of grade-level interdisciplinary teams in American middle schools, eg Pounder (1998), Erb (1987), Kain (1996), Kruse and Louise (1997), Maeroff (1993), Garner (1995), Erb and Doda (1989).

1-45. Consultation and Teachers as Consultants: Jarvinen (1998) finds that, while the consultative approach is an important way to facilitate organisational innovations and team learning processes, the personal skills of consultants are very much tacit and difficult to externalise. Halász (2003) describes the development of regulatory arrangements in the Hungarian education system as a response to the tension between increasing complexity and decentralisation on the one hand and the desire of the state to control equity, quality and effectiveness on the other. Private consultants play a strong role in in-service training and school evaluation, and schools can buy consultant services using state money. Hopkins (2003) studies five major school networks of innovations in Portugal, Canada, Germany, England, and Europe. Among other findings, he observes that the key purpose of networks is to create and disseminate knowledge to support educational improvement and innovation. He also found that consultants or trainers form a group of key stakeholders. They are sometimes brought in form outside agencies to provide professional training but often teachers from innovative schools within the network act as trainers for other network participants.

1-46. A task for the Dissertation: The EC began to develop the Policy eight years after the formulation of ECR5. It is necessary for the Policy to review how significant the concepts of tacit knowledge and knowledge management are to implementing the education reform, especially

actualising its stated priority and capitalising on the complexity of the change process. The methodology of the dissertation is going to follow up along this line within its fundamental and action-oriented concept of policy research.

Chapter Two:

Methodology

(For clarity in subsequent parts of this dissertation, *the Author* denotes the author of the dissertation and *the Writer* denotes the complex of people who put into words the ideas of the Education Commission to form the Policy document.)

Nature of the Research

2-1. Non-empirical Research Methodology: In Chapter One, it could be seen that the Policy is very broad and comprehensive, covering various stages of education from early childhood to adulthood. More than this, the Policy aims at changing the traditional ideology of learning of many stakeholders of the education system from passive reception to active construction of knowledge. Discussing this involves a huge number of fuzzy and complex concepts, eg those related to lifelong learning, curriculum integration, and knowledge management. In view of this, in-depth empirical research testing certain hypotheses would have to control too many variables to be possible, let alone of practical value. Empirical research might also have too narrow a basis for a policy critique that has to match the comprehensiveness of the Policy. Instead, discourse analysis

based on exploratory questions about the text of the Document is preferred. Should there be no restriction on length, this kind of policy critique could cover nearly the whole Policy. Discourse analysis would then be followed by predicting possible undesirable consequences of strategies proposed in the Policy. Recommendations for future policy agenda and research agenda would then follow.

2-2. In Search of a Structure for Analysing Discourse: There are many structures for analysing discourse. To search for a structure that matches the comprehensiveness of the Policy and the wholeness of the education reform, a systems approach to management is a useful starting point. Jackson (2000) describes and critiques a large number of systems approaches to management and puts them in four main categories: functionalist, interpretive, emancipatory, and postmodern systems approaches. Functionalist systems approaches assume that a social system of people has a unitary vision and hence utilises technical means to optimise regulatory and control measures for arriving at the vision – corresponding to the technical interest of Habermas' three human cognitive interests (McCarthy, 1978). Functionalist systems approaches do not suit this dissertation, which has a fundamental non-technical orientation. Interpretive systems approaches assume that people in a system have free wills, multiple visions and interpretations of the world, and conflicts of interests. This kind of approaches aims at promoting mutual understanding

and aligning visions through discussions and open debates to produce a more unified system – corresponding to Habermas' concept of practical human cognitive interest. Emancipatory systems approaches – corresponding to Habermas' concept of emancipatory human cognitive interest – came into existence only in the 1980s, largely because of dissatisfaction with a weakness of the interpretive approach, namely, its neglect of the power relations between people and hence its limitations in arriving at conditions for genuine open debates, especially in a system with power hierarchy. The education system in Hong Kong has its roots in British colonialism and Chinese imperialism and is still retaining their culture of power hierarchy. Hence, the dissertation would prefer the emancipatory systems approaches to the interpretive ones. Ulrich's *Critical Systems Heuristics* (Ulrich, 1983; Ulrich, 1987; Jackson, 2000) stands as a landmark in the systems literature because it was the earliest of these emancipatory systems approaches. The sense of being *critical* can be traced back to Kant's *Critique of Pure Reason* and *Critique of Practical Reason,* and refers to making "transparent to oneself and to others the value assumptions underlying practical judgements, rather than concealing them behind a veil of objectivity" (Ulrich, 1983, p. 20). Ulrich's concept of *systems* also refers to Kant's critical reminder of "the unavoidable incomprehensiveness and selectivity of every definition of a system, and hence of the need for reflecting on the normative content of the *a priori*

whole systems judgements flowing into our systems concept" (Ulrich, 1983, p. 21). Because of its root in Kant, and hence also in the Enlightenment, *Critical Systems Heuristics* is categorised as modernist, even though it offers practical means for the marginalised to voice their cases in a polemical manner.

2-3. Ulrich's Groups of Stakeholders: *Critical Systems Heuristics* considers all stakeholders in a process of social planning – those involved in the planning on the one hand and those not involved but affected (the *witness*) on the other. Among those involved are the *client* (alternatively called the *beneficiary*), the *decision-maker,* and the *planner* (alternatively called the *experts*, ie the professional contributing his/her knowledge). The client represents a source of motivation, the decision-maker a source of power, the planner a source of expertise, and the witness a source of legitimation of the social planning. Motivation, power, expertise, and legitimation form a good structure for analysing discourse.

2-4. A Word-Limit Consideration: The early stages of the research examined all these four groups of stakeholders and produced an essay the length of which would seriously breech the word limit of a dissertation imposed by the university for the degree of Doctor of Education. Two shorter sub-essays could be identified. The first one examined the intention of the Policy and the source of expertise for its implementation. This is

directed at the main proposed ideas of the Policy, which concentrates on student learning and school educators' professional roles and responsibilities. The second essay identified politicians and administrators as the *decision-maker* and teachers, taking no part in any fundamental social decisions, as the *witness,* confirming the insight of Morris and Scott (2003) (Paragraph 1-30). This sub-essay examined issues of power, communication, and legitimation behind the spotlight of the Policy. The data for this sub-essay came mainly from a diversity of past and present documents outside the Policy and would thus be an indirect critique more of the process of developing the Policy based on existing institutions than on the Policy proposals themselves. A decision was then made to use the first sub-essay as a basis for writing the dissertation because it would form a direct and close critique based on the proposed ideas of the Policy and directly relevant to the title initially submitted to the university. The materials in the second sub-essay would be left for future use.

2-5. In Collaboration with Postmodern Methods: Jackson (2000) also describes postmodern systems approaches and how ideas from postmodern philosophers like Foucault and Derrida can be used in combination with systems methods of modernist paradigms. This dissertation, developed from the first sub-essay, makes use of Derrida's idea of textual deconstruction (eg Jackson, 2000; Gutting, 1996/2003; Norris, 1991) to analyse closely the text of the Policy to search for internal inconsistency.

Based on the principle of priority in logic (Gutting, 1996/2003), the dissertation identifies key proposed ideas of the Policy where its own stated priority has not been genuinely followed. Foucault's ideas (eg Jackson, 2000; Marshall, 1990; Ball, 1994; Popkewitz and Brennan, 1998) have influence on certain parts of the dissertation. For example, the assessment systems proposed by the Policy and portrayed as formative assessment in nature are considered as a regulatory-and-control policy mechanism and are examined from the perspective of their effects on intrinsic motivation and joy of learning – using Derrida's textual deconstruction. Similarly for the second sub-essay, if finely developed, Foucault's ideas could be applied to examine whether or not the discourse/hierarchical power of the policymaker and the administrator, situated in the present conditions of decreasing birth rate, increasing market forces in education, individual accountability and government downsizing in Hong Kong, had been restricting the everyday activities of teachers rather than giving more room to them as repeatedly emphasised in the Policy document (p. 1, 6, 15, 60, 96, 147). However, this idea deserves a separate research paper rather than being subsumed in the present dissertation.

Exploratory Questions

2-6. In principle, two types of exploratory questions could be used to explore the text of the Document: heuristic questions and research questions.

Heuristic Questions:

2-7. The term *heuristics* in the name *Critical Systems Heuristics* refers to one of its key features – totally twelve pairs of questions mainly for heuristic purposes to initiate critical reflection on possible human delusions in defining the boundaries of the systems of stakeholders. Let S be the system to be designed or improved. The first member of each of the twelve pairs of questions are:

Focusing on the Source of Motivation of the Social Planning (Paragraph 2-3):

1. Who *is* the actual client of S's design, i.e., who belongs to the group of those whose purposes (interests, values) are served, in distinction to those who do not benefit but may have to bear the costs or other disadvantages?
2. What is the actual purpose of S's design, as being measured not in terms of the declared intentions of the involved but in terms of the actual consequences?
3. What is, judged by the design's consequences, its built-in measure of success? (Ulrich, 1987, p. 280).

Focusing on the Source of Power:

4. Who is actually the decision taker, i.e., who can actually change the measure of success?

5. What conditions of successful planning and implementation of S are really controlled by the decision taker?

6. What conditions *are* not controlled by the decision taker, i.e., what represents "environment" to him? (Ulrich, 1987, p. 280).

Focusing on the Source of Expertise:

7. What is actually involved as planner?

8. Who is involved as 'expert', of what kind is his expertise, what role does he actually play?

9. Where do the involved seek the guarantee that their planning will be successful? (E.g. in the theoretical competence of experts? in consensus among experts? in the validity of empirical data? in the relevance of mathematical models or computer simulations? in political support on the part of interest-groups? in the experience and intuition of the involved? etc.) Can these assumed guarantors secure the design's success, or are they false guarantors? (Ulrich, 1987, p. 280).

Focusing on the Source of Legitimation:

10. Who among the involved witnesses represents the concerns of the affected? Who is or may be affected without being involved?

11. Are the affected given an opportunity to emancipate themselves from the experts and to take their fate into their own hands, or do the experts determine what is right for them, what means quality of life to them, etc.? That is to say, are the affected used merely as means for the purposes of others, or are they also treated as "ends-in-themselves" (Kant), as belonging to the client?

12. What world-view is actually underlying the design of S? Is it the view of (some of) the involved or of (some of) the affected? (Ulrich, 1987, p. 280).

The above questions are in the "is" mode. By replacing the "is" mode with the "ought" mode, the second member of each of the twelve pairs of questions is obtained. Contrasting the "is" mode and the "ought" mode is a systemic way of evaluating the normative content of the social planning. The dissertation adapts four pairs of these questions for the *system of beneficiaries* (no. 2 and 3 of Ulrich) and for the *system of experts* (no. 8 and 9 of Ulrich). The other eight pairs of these questions are not used for the later part of the research. Ulrich's questions no. 1 and no. 7 are not used for the dissertation. It is not because they are uninteresting. Rather, they involve deep-rooted ideological issues of self-interest and democracy in Hong Kong that could easily direct the dissertation into an opinionated self-expression, much beyond the research relevant to its title. For this reason, the dissertation considers the *student* as the beneficiary and the *school educator* as the expert.

2-8. Heuristic Questions about the Systems of Beneficiaries: The first four heuristic questions of the dissertation point to the source of motivation of the reform. The first two questions are:

- What is the actual purpose of the reform?
- What is the built-in measure of success of the reform?

The third and the fourth questions are the critical counterparts of the first two, obtained by replacing the *is* mode in the first and the second questions with the *ought* mode.

- What ought to be the actual purpose of the Reform?
- What ought to be the built-in measure of success of the Reform?

These two *is/ought* pairs of heuristic questions have been deeply deliberated but found to involve too much information and too many opinions not directly available from the Policy document or related to it. They are not considered suitable research questions for the direct and close analysis of the text of the Policy. However, other research questions did emerge while deliberating on these heuristic questions.

2-9. Heuristic Questions about the System of Experts: The fifth to the eighth questions of the dissertation point to the sources of expertise of the reform. The fifth and the sixth questions are

- Who is involved as expert, and of what kind is the expertise?
- Where does the expertise initially come from?

The seventh and the eighth critical heuristic questions come from using the *ought* mode in the fifth and the sixth questions.

- Who ought to be involved as expert, and of what kind ought to be the expertise?
- Where ought the expertise initially to come from?

These two pairs of heuristic questions will also be used as research questions.

Research Questions:

2-10. Using the Heuristic Questions: The second type of exploratory question is the research questions. Research questions will be used in three ways. First, the heuristic questions themselves will also be the research questions in the discussion of the system of experts.

2-11. Defining and Challenging Terms: Secondly, the Document contains many fuzzy concepts, eg *learning*, *lifelong*, *all-round development*. These terms mean different things to different people in different situations. The second use of exploratory research questions aims at clarifying these terms. Additional to clarifying what these terms mean, the answers to these clarifying questions may also trigger discussion if what these terms do not but *should* mean. The implicit *should* question is heuristic, aiming at bringing in principles, theories and praxis from outside the Policy to challenge the boundaries of these terms as used or defined in the Policy. For example, the Policy explicitly refers to learning as actively constructing knowledge by individuals. An implicit *should* question would trigger off the idea to bring in the theories of knowledge construction and to check if the Policy has effectively acknowledged the collaborative and the communicative aspects of knowledge construction.

2-12. Uncovering Priorities: Research questions will also be used to uncover the order of priority of certain values, or concepts, or measures, etc

advocated by the Policy. For example, culturally productive personalities, generic skills, and language competence are considered important in the Policy. Words might be rhetorical and it is necessary to explore the policy mechanisms – tools or vehicles used by policymakers to achieve their policy objectives (Majchrzak, 1984, p. 104) – to be used for promoting them. The implicit order of priority among these items might be different from what explicit words express. Common policy mechanisms, as suggested by Majchrzak (1984, p. 25), were found to be useful and are listed below:

- exchanging information,
- financial incentives and disincentives,
- regulatory and control measures,
- constructive policy action,
- symbolic priority-setting, and
- research and development.

Where Critical Questions and Ideas Would Emerge From

2-13. Ongoing Issues: Critical questions and ideas emerged before and during the research from several sources. First, they emerged from the ongoing issues and debates in which educators, policymakers, and ordinary citizens were involved during the development of the Policy. For example,

they emerged from educators' complaints about the expertise of government officers, from policymakers' debate on assessment issues and from the possible increasing student diversity.

2-14. Clarifying Meanings: Secondly, critical questions and ideas emerged from reading the texts and trying to clarify their meanings. A huge number of ordinary terms, eg learning, appear in the Document. When reading the text of the Document, readers might find that, for example, *learning* in the Policy means something more specific than or different from their own usual usage. A research question, "What does the Policy mean by learning?" could then be created.

2-15. Academic Authorities: Thirdly, when these ordinary terms appear in an education policy, many readers of the Document will borrow various meanings from academic authorities related to education. These meanings might be different from the literary meaning as used in the Policy, or the Writer's meaning as revealed during the research. The difference in meanings would give rise to critical ideas. For example, the term *lifelong* in *lifelong learning* is used in the Policy essentially to qualify postgraduate courses or courses in continuing education. A naturally emerging query from educators would be how this meaning would compare with those of *re-current education* (Organisation for Economic Co-operation and

Development (OECD), 1996), or *lifelong education* (Ingram, 1979; Skager, *et al*, 1977), or *lifelong learning* in contemporary literature worldwide.

2-16. Further Comparisons: Fourthly, discovering such discrepancies leads to further questions. For example, the Policy wants students to become *active knowledge constructors*. The Policy also requires teachers to learn a lot of new abilities. Does the Policy consider teachers to be active knowledge constructors as well? If the inconsistency revealed by a discrepancy in meaning gives rise to some significant educational issue, a critical case is developed.

Answering the Emerging Questions

2-17. Familiarity with the Text of the Policy Document: Answering an emerging question depends on the Author's familiarity with the text of the Policy document. The Author read the Policy document before deciding to write this dissertation. Reading a policy document is not a linear process from page one to the last page. It involves re-reading and browsing. Thus, general impressions of the Policy's critiques, values, strategies, and even diction became more solid; the topics and their location in the Document left strong memories in the mind; and the vocabulary used in the Document became more familiar. This helped in locating answers to questions

emerging later and in selecting/deleting keyword and partial keywords for later word searches.

2-18. Keyword Searches: The Author's familiarity with the text was far from sufficient for answering the heuristic questions or the research questions, which seldom had direct answers from the Policy document. Answering these questions required reading a large number of potentially relevant parts in the text. Keywords and partial keywords – ie their roots and their derivatives – were used to search an electronic copy of the Document for locations that might suggest partial answers to the question. These keywords arose from the Author's familiarity with the vocabulary in the Document.

2-19. Sources of Keywords: To exhaust possibilities, there were two further sources of keywords or partial keywords. First, before actually carrying out a textual search, a thesaurus was consulted to generate synonyms as additional keywords. Not all synonyms were useful because the Author's memory might tell which synonyms had never appeared in the Document. Secondly, the search itself might lead to sentences or paragraphs containing words suitable as keywords for further searches. This is because the Writer used alternative words to express the same idea.

Other Considerations about the Word Search and Corresponding Analysis

2-20. No Boolean Search: No Boolean word search was used; instead, roots and derivatives of keywords were used for electronic searching. There were two reasons for this. First, it provided more opportunities to read sentences/paragraphs of the Document with simultaneous analysis of their meanings. Both critical questions and answers might arise from such analytical reading. Secondly, since the analysis of the text was to be qualitative rather than quantitative, the human mind can better identify (1) subtle features to be identified in the current search, (2) other potential keywords used by the Writer, and (3) interesting points from which other emerging questions might arise.

2-21. Avoiding Excessive Length: Records of such textual analysis will not be shown in the dissertation. Instead, illustrative quotations from the Document will be shown in the main text of this dissertation. There are two reasons for so doing. First, the details of the textual analysis are relatively simple and are unlikely to be of interest to the reader. Secondly, the huge number of sentences pulled out from the Document and the Author's corresponding notes would make the dissertation excessively long and cumbersome to read.

2-22. Related Areas of Public Literature: Finally, because the literary meanings in the Policy and the Writer's meanings have to be compared with those in public literature, it will help the reader if the Author specifies what areas of public literature would deserve particular attention. These areas, however, could not have been fully determined beforehand.

- Lifelong learning: The name of the Policy document *Learning For Life; Learning Through Life* suggests this area.
- Constructivism: The meaning of learning in the Policy is essentially active knowledge construction. Theories of constructivism and social learning will be useful for comparison.
- General societal conditions in Hong Kong: The Policy addresses educational issues in Hong Kong from the perspective that education prepares Hong Kongers for work and life in the era of a knowledge-based economy. It will be necessary to understand the current conditions of general life in Hong Kong.
- Curriculum integration: Certain types of curriculum integration have been identified as school praxis embodying the philosophy of lifelong learning since the 1970s. This will be used for comparison with the ideas of integrated subjects and integrated learning proposed in the Policy.

- Recent educational innovations: The Policy uses educational terms in popular use in recent public literature. It will be necessary to clarify such meanings.
- Local educational changes in the present or the near past: This will help the reader to understand the local cultural or historical context. In particular, the Target Oriented Curriculum (TOC) is a large-scale curriculum reform in 1990's.
- Knowledge management: The Policy proposes a shift in the paradigm of learning in the era of knowledge-based economy. Knowledge plays a very important part in the education reform. Knowledge management will naturally be an appropriate perspective for auditing the Policy.

Chapter Three:

Preliminary Critical Analysis of the Concepts of Lifelong Learning and All-round Development

3-1. The Spirit of the Entire Reform: In his forward to the Policy document, Antony K.C. Leung, the then Chairman of the Education Commission and later Financial Secretary of the HKSAR, emphasised with coloured prints that *lifelong learning* and *all-round development* are the spirit of the entire reform (p. i). This chapter analyses what the Policy means by the terms *learning*, *all-round development* (ARD) and *lifelong* in lifelong learning (LLL), and raises initial critical questions.

Section A:

What Does the Policy Mean by Learning?

3-2. Learning as Studying in a Course: The conceptual and the strategic aspects of the term *learning* are studied in this section. The whole document was searched for the keyword *learn* and it is found that the Policy does not formally define what learning is. In many places, the Policy uses *learning* in a way similar to *studying in a course*.

Learning as Knowledge Construction

3-3. The most explicit form in which the Policy expresses the meaning of *learning* is the following:

> In a knowledge-based society, students would no longer receive knowledge passively. Through the process of learning, they also continuously construct and create knowledge. . . . (p. 40).

These semi-explicit statements of meaning, appearing not even in the initial Summary chapter, distinguish active knowledge construction from passive knowledge reception and refer to the former as the activity during learning. Although the major policy document in 1997, *Quality School Education*, was the first one concerned with quality of education, the paragraph above is the first in local policy documents to acknowledge that knowledge is actively constructed rather than passively received. To constructivists, this

is a milestone that marks the emerging importance of the nature of learning in local education policy development. To others, the term *constructing knowledge*, placed in an obscure paragraph on an insignificant page and not even included in the Summary of the document, could just be a stylistic synonym for *learning*. Does the Policy expand on what it means by knowledge construction?

Knowledge Construction and Learning Experiences:

3-4. The Concept: The Policy does not explicitly describe the knowledge construction process but suggests that through learning experiences, students

- Think, explore and create (p. 4, 29); and
- Analyse, judge and establish their own values (p. 45).

The Policy stops short of devoting sections of text specifically to explaining the process of knowledge construction in a learning experience. Other descriptions of learning experiences give more value-laden meanings and carry more implications for action. They are abridged and shown below. The learning experiences, as advocated by the Policy, are:

- Uninterrupted (p. 62);
- Coherent and integrated across subjects (p. 59); and
- Coherent in ideology, curricula, teaching methodology and personal development (p. 7).

3-5. The Strategies: Some curricular and/or administrative strategies to create such learning experiences are summarized as:

- To advocate life-wide learning, ie learning experience should not be over-restricted temporally by the formal timetable nor physically by the walls of the classroom (p. 9, 37, 62).
- To encourage teachers to *make appropriate use of project learning to help students develop abilities and skills for analysing issues from different angles* (p. 59).
- To facilitate the proper use of IT among students with an aim that they can *learn on their own and throughout their lives* (p. II-3).
- To structure learning experiences in the areas of moral, emotional and spiritual education (p. 5, 35, II-1);
- For early childhood, to focus on group life, a pleasurable and rich learning environment, inspiration of curiosity, sense of responsibility, respect, and interest in learning and good living habits (p. 8, 31, 49);
- For the CDC to prepare curriculum guides outlining the learning experiences to be provided and the attitudes, abilities and knowledge to be cultivated at every key learning stage of school education (p. 64);
- To link the content of examinations with students' experiences in daily lives (p. 11).

From these features the Policy is clearly supportive of the kind of learning that is active, cognitive (in the mind), authentic and contextual. The connections between these aspects of learning, however, are not clear from the text. By suggesting the use of learning experiences in moral education, the Policy seems also supportive of the social and the emotive aspects of learning; however, the connection is even less obvious from the text.

Knowledge Construction, Cooperation and Communication:

3-6. What the Policy Says: Does a knowledge-construction experience involve cooperation and communication among people? The Policy regards cooperation and communication, with other skills, as

- a generic skill (p. 38, 60, 100) or ability acquired in learning experiences (p. 100); and
- necessary for knowledge construction (p. 150).

However, how cooperation makes knowledge construction possible is never touched on. More commonly the Policy mentions situations in which parties with diverse roles divide labour and provide practical know-how (p. 153).

3-7. Immature Conceptualisation about Knowledge Construction: What has been revealed in the last paragraph raises some concerns for practitioners and future policymakers. If the Policy is so vague about the process of knowledge construction, especially the part played by

cooperation, it is still far from addressing a number of issues related to student diversity and to the tension between the status of codified or explicit knowledge (eg academic knowledge) and tacit or implicit knowledge (eg cooperation) in any curriculum today.

Who Learns?

Learning, for Students Only:

3-8. Another feature of learning as used in the Policy document is that although it is a policy on LLL it focuses, near exclusively, on students. Although the word *everyone* is used when LLL is mentioned there is little substantial reference of the word *learn* to someone who is not a student, eg a working adult or a retired person not formally enrolled in a training program, although there is no explicit denial either. The Policy is also not concerned about anything not linked to the education system, eg barriers to LLL originating from the workplaces faced by working adults whether or not they are enrolled as students. The supposedly linked concepts of learning, working, and living are not seen as related in the Policy. Thus learning in the Document is practically limited to active construction of knowledge by students. This observation can be confirmed by two others: (1) the EC Chairman says in the Forward that "*students* are the focal point of this entire reform . . . " (p. i), and (2) there is no major change of

government structure related to the Policy, contrasting with what some countries, like Japan (Ministry of Education, Culture, Sports, Science and Technology, 2003), have done – eg setting up an LLL bureau to coordinate related strategies beyond and including those in education. The Policy has thus assumed, probably unconsciously, that learning of working or retired adults, including school educators, is only marginally connected to learning of the student. The validity of this assumption is certainly open to dispute since modelling plays a powerful part in learning and teaching.

Schools as Learning Organisations?

3-9. Learning of School Educators: Even if the assumption is true, it is still significant to the implementation of the education reform to ask whether the Policy questions seriously *how* a teacher, or a team of teachers, is likely to learn, and learn most effectively, when facing the new requirements proposed in the education reform. Are traditional forms of teacher education – mainly degree courses, one-off off-school-campus courses for individual teachers, plus isolated staff development days, plus newly introduced IT tests and language tests for teachers – the most valid form of teacher learning relevant to the education reform? Being uncritical of the effectiveness of existing forms of teacher education in comparison with how teachers best learn is potentially expensive in terms of wastage of education funding and teacher time.

3-10. Schools not Included as Learning Organisations: The concept of knowledge construction, as part of knowledge management, is also seen as applicable to industries and organisations as seen from the following quotation:

> The creation, updating and application of knowledge have become the key to the success of industries, organizations and individuals. (p. 27).

However in this context of knowledge construction, no evidence can be found that the Policy includes schools as these knowledge-managing organisations. The following activities of school educators should be related to building of knowledge of the school. However, they are either merely considered as jobs to be done rather than part of a learning process, or the Policy treats them in isolation from systemic or systematic knowledge building.

- . . . allowing schools to design curricula (p. 62)
- Schools are expected to develop their school-based curricula basing on the [curriculum] framework [of the CDC]. (p. 64)
- There should be a partnership between schools and parents, as the latter can provide support in the form of human and financial resources, . . . (p. 145).
- With the ED further decentralizing its authority to schools, SSBs [ie school sponsoring bodies] will shoulder an even greater responsibility to lead schools . . . . [They] should therefore brush up their management skills and increase the participation of other stakeholders . . . . (p. 150).

The first two quotations indicate that the school has to take up the job of developing school-based curricula. However, developing school-based curricula is not new to schools and, in the Policy, the connections between

the concepts of learning, working, and living for adults is unclear. So these two quotations cannot indicate that the Policy considers schools as organisations that construct knowledge relevant to their own profession. Rather, the failure of the Policy to link such activities to teacher learning is regrettable. The last two quotations, in the worst scenario, could indicate the mere resultant shift of the burden (Senge, 1990, p. 104) of the technical aspect of financial and resource control from full-time EMB staff to voluntary amateur school managers or a paid management assistant in the school. This could be far from a learning organization.

3-11. Need for Knowledge Management: What is the nature of the knowledge produced in schools, especially among teachers? Are certain significant forms of professional knowledge neglected in the Policy? How can these types of knowledge be constructed? These are pertinent questions that the Policy has to answer in order to clarify its concept of the system that supports learning of students, the *focus* of the education reform.

Learning Society?

3-12. The term *lifelong learning society* is used in the Policy document (p.5, 34, 39, 40, 113). Yet all references to this term describe learning individuals in society and not society as a co-ordinated system. There is, however, one situation where the coordination of work of different roles in society is seen as necessary to implement the education reform. In Chapter

11, Support of Other Stakeholders, the support and cooperation of the entire community is described, including frontline educators, school sponsoring bodies, students, parents, the Government, education advisory bodies, teacher education providers, the Quality Education Fund, and other sectors. The urge for commitment, contribution and cooperation is strong and the division of labour is clear-cut but only students and teacher researchers are respectively expected to construct knowledge and to do research in collaboration with pilot schools. The Policy also makes no attempt to conceptually link life and living with knowledge constructing. Thus, it cannot be said that the Policy has systematically discussed how new knowledge can be constructed and managed socially at the society level in the education reform. At least for the school system, the Policy should initiate a plan for Regional management of professional knowledge.

Motivation for Learning

3-13. Economic Competitiveness: The next question to investigate is: "What are the motivation, reasons or the rewards for learning?" A few quotations will illustrate the tone of the Policy:

> Learning is the key to one's future . . . (p. i).
>
> The world economy is in the midst of a radical transformation, and the industrial economy is gradually being replaced by the knowledge-based economy. . . .

> The creation, updating and application of knowledge have become the key to the success of industries, organizations and individuals. (p. 27)
>
> Education must help everyone to make a living and to meet the demands of their work. It should enable everyone to achieve their own success and to contribute to the economy. This is the "training" aspect of education. (p. 38).
>
> Competition is the hallmark of Hong Kong and one of the key factors of success of East Asian economies. . . . (p. 39).
>
> . . . However, in the traditional system of education, the success of a few outstanding students is built upon the failure of the majority of students. In Hong Kong, the education system has brought frustration and a sense of failure to a lot of youngsters, and does not provide sufficient channels for them to find their own career. (p. 39).

Thus the motivation for learning, as knowledge construction, is that in the world today, where globalisation has heightened the intensity of competition and where a knowledge economy has been replacing the industrial economy, one has to keep on constructing knowledge in order to be more competitive and in order to make a living. The fundamental rationale of change is based on the need to survive, a firm belief in the function of competition, the overwhelming importance of economy to society, and the increasing reliance on knowledge. The education reform aims at ensuring that everyone has the ability to contribute to Hong Kong's economic success.

Joy as Motivator of Learning:

3-14. What the Policy Says: Another reason for learning offered by the Policy is that learning should be enjoyable.

> [Learning] should be enjoyable. and it does not follow that students will not work hard. It is only through hard work and achievements they will derive satisfaction and joy. (p. i).

While the quotation above says that learning should be enjoyable and is the key to one's future the Policy also states that

> . . . learning is still examination-driven and scant attention is paid to "learning to learn". School life is usually monotonous. students are not given comprehensive learning experiences with little room to think, explore and create. (p. 4).

The Policy then assigns education a responsibility:

> Education must also help people enjoy their work and live a meaningful life. Education enriches a person's cultural. intellectual and spiritual faculties, spurring him to continuously raise and to pursue his goal in life. This is the 'enlightenment' aspect. (p. 38).

3-15. Only Positive Thinking: The Policy paints two contrasting pictures of learning, one dull present picture of reality and the other an enjoyable future picture. Disappointingly, the Policy provides no theory, evidence, or examples that learning can be enjoyable. It does not guarantee that the strategies proposed will satisfy certain criteria specific to joy of learning. The basis for enjoyable learning appears only to be positive and wishful thinking rather than solid proposals specific to creating joy of learning. Is the Policy expecting students, who are not enjoying learning at present, to be patient because learning should be enjoyable and is the key to their future? Does it mean that gratification will come only in the future? If this were the actual meaning of the Policy it is noteworthy that Hong Kong has been a very rich lucrative capitalist society in the near past and

hedonistic values have been omnipresent. Educators can no longer expect our students to patiently endure ascetic studying so as to ensure a good future, unless there is also emerging joy. When educators try to provide immediate extrinsic rewards in terms of lots of praise, high test scores, and abundant prizes they usually find that the rewarded have such ever increasing appetites that sooner or later they cannot be satisfied. Also educators might have to lower standards in order to justify indiscriminate rewarding. This would give students a false sense of satisfaction unrealistic in future workplaces. In the face of this lack of evidence, with no specific proposals to create joy of learning, the EC needs to ask which of their proposals will make learning joyful. What aspects of a learning experience make it joyful?

Section B: What Does the Policy Mean by *All-Round Development*?

3-16. Introduction: In the last section, it was found that the Policy conceived of learning mainly as active knowledge construction by students. ARD is also seen as a feature of learning. In this section, we shall find out what the EC means by *all-round development*.

3-17. Aims of Education in Hong Kong for the 21st Century: The most explicit statement about ARD is in one of the aims of education in Hong Kong for the 21st Century (p. 4) (First quotation in Paragraph 1-6). It can be seen that it includes more on personal development in general than merely on all-roundness. For example, *filled with confidence* does not necessarily depend on all-roundness. ARD *per se* refers to

- achieving a wider spectrum of competencies (p. ii) and multiple abilities (p. 37), and
- balancing personal (p. 57) development in the domains of ethics, intellect, physique, social skills and aesthetics (p. 4 and 30).

Rationale for Advocating ARD

3-18. What the Policy is Against: The statement of aims, in a sense, is too broad for the reader to see the rationale for advocating all-roundness in personal development in the education reform. Instead, the rationale can be seen from what the Policy is against:

- the over-emphasizing of academic studies (p. 60) and
- being restricted by the scope and methods of examinations (p.4 and 29).

3-19. Going Beyond the Measurable: The history and the context of Hong Kong is such that schooling seems to have devoted its attention more

to something else - those aspects that examinations measure, eg content in academic subjects – than to the student as a holistic person with many other qualities as well, many of which are not measurable, or are difficult to measure. It is likely that the Policy is trying to place the focus back on the all-roundness of the person rather than allowing it to be biased narrowly to certain school academic subjects and to what is measurable.

The Priority of the Education Reform (The Priority)

3-20. The Explicitly Stated Priority: In addition to understanding what the Policy is against, it is necessary to examine its Priority (p. 4, 30) (Paragraph 1-6) more closely. Of all aspects of personal development, four elements are given priority by the Policy: joy of learning, effectiveness in communication, creativity and sense of commitment. However, nothing is said about what these mean.

3-21. In Addition: Generic Skills: Another element that is repeatedly described in further detail at three places in the Policy is generic skills: *including language, communication, numeracy and information technology skills as well as ability for teamwork* (p. 88, 89) or *including communication, numeracy, learning, problem solving, information technology, critical analysis, creativity, collaboration and self-management* (p. 100). It is the new proposal of generic skills that gets

more attention from the policymakers. However, there seems to be a lack of agreement about how the list of generic skills is constituted and there is no mention of where this concept comes from.

What ARD Means at Different Stages

3-22. Early Childhood Education: The strategies for developing all-round students are stage-related. For early childhood education, the relevant strategy is

> to provide children with all-round and balanced learning experiences according to their physical and psychological development needs[,] (*sic*) to help them cultivate an interest in learning and good living habits as well as to learn to respect others. (p. 49).

Hence the emphasis is on physical and psychological development, group life, and good habits rather than on academic studies and examinations.

3-23. Nine-Year Basic Education: For nine-year basic education, ie primary and lower secondary education in general, the emphasis is on developing knowledge and abilities that are basic.

> The curriculum at this stage should focus on developing students' basic knowledge and abilities, including positive attitude and values, judgment, the capability for independent thinking, critical analysis and problem-solving and team-work, as well as adaptability, creativity, organizational skills and communication skills. (p. 9).

It is recommended that *the curriculum should be reformed to become more flexible, diversified and integrated* (p. 9).

3-24. Five Types of Essential Learning Experiences and Eight Key Learning Areas (KLAs): The Policy proposes that the curriculum framework of nine-year basic education and senior secondary education should be re-structured such that every student will have balanced exposure in five types of essential learning experiences

- moral and civic education (life experience),
- intellectual development,
- social service,
- physical and aesthetic development, and
- work-related experiences [at senior secondary education] (p. 15, 58).

and in eight KLAs.

- Chinese language education,
- English language education,
- Mathematics education,
- Science education,
- Technology education,
- Personal, Social and Humanities education,
- Arts education, and
- Physical education (p. 15, 58).

3-25. Senior Secondary Education: For senior secondary education, the strategies of the five types of essential learning experiences and the eight KLAs for basic education will also apply. In comparison with education in the past, the Policy stresses the importance of encouraging all students at this stage to do more exploration of their own aptitudes and potentials. In addition to the five types of learning experiences, senior secondary students should explore more work-related experiences. In the past all students

were rigidly tracked into arts or science curricula. The Policy proposes that this rigidity will be abolished.

3-26. Higher Education: For higher education, the Policy advocates that first-degree students should have more *exposure to other learning domains apart from their own specialised disciplines* (p. 45) so as to reach a balance between breadth and depth. Students should develop a sense of integrity, positive attitude, a broad vision and important generic skills.

3-27. Continuing Education: As for continuing education, it should be flexible, diversified and internationalised. Also

> The feasibility of "work-based learning programme" jointly organized by employers and providers of continuing education should also be explored. (p. 10).

Leverage

3-28. The EC considers that the interface, especially public assessment systems, between the various key stages of education constitute the leverage points to effect all-round personal development (p. 138).

3-29. University Admission: First, narrow academic university admission requirements are considered as the main cause of over-specialisation.

> [Universities should] overhaul their existing admission mechanism . . . [by avoiding] excessive reliance on the results of public examinations and should

> give due consideration to the overall performance of students. . . . Internal assessment reports of secondary schools, portfolios prepared by students themselves and their performance at interviews could be considered. (p. 21).

Tactics to support this strategy could include (a) giving priority to those students who take the subject Liberal Studies (a broad subject at the Advanced Supplementary Level); (b) replacing Advanced Level (AL) subjects with Advanced Supplementary Level (ASL) subjects as far as possible when setting the subject requirement for university admission (Note: one AL subject is equivalent to two ASL subjects); and (c) minimizing the number of subjects specified as requirements for entrance to certain faculties (p. 21). In addition to these tactics, the Policy proposes three years at senior secondary education (and no additional year at tertiary level) to replace the existing two years at School Certificate level plus two years at Advanced Level; this structural change aims at providing a favourable environment for reforming university admission (p. 117).

3-30. Secondary One School Places Allocation: Secondly, *public assessment for the purpose of allocating secondary one school places should also be abolished* (p. 12) and *pupils will no longer be required to take any high-stake public examination* (p. 74). In future, school internal assessment with balanced weightings for academic and non-academic subjects and diversified modes of assessment (p. 79) should replace the present public assessment.

3-31. Primary One Admission: Thirdly, Primary One admission mechanisms need to be reformed to avoid excessive academic competition for very young children (p. 71). This is seen to be necessary because many large and historic school-sponsoring bodies run both primary schools and secondary schools and these schools are linked in terms of tradition, religion, ideology, family ties, or resources. A very high percentage of the pupils of these primary schools can enter their respective linked secondary schools to maintain continuity. Thus some primary schools are more popular to parents than others because their respective linked secondary schools are traditionally popular. Thus reforming only the secondary but not the primary school allocation system would shift fierce competition from entering prestigious secondary schools to entering primary schools linked to such prestigious secondary schools.

Curriculum Reform

3-32. The Policy also suggests the following features of the coming curriculum reform relevant to ARD: (a) having a diverse school curriculum structure, accommodating various approaches: *subject learning, modular learning, permeation approach, integrated learning and project learning* (p. 59); (b) *[integrating] various forms of formal, non-formal and informal learning activities within and outside the classroom* (p. 45); and (c) having

moral and civic education as one of four key tasks, addressing issues like *ethics, healthy living, sustainable development (such as environmental protection), and identification with and commitment to the country and the community* (p. II-1). The curriculum reform will also include the elimination of *repetitive and unnecessary elements in the curriculum* so as to provide *more room* (p. 15, 58, 60).

A Paradigm Shift and Cultural Change

3-33. One important aspect of the education reform is about the nature of the change expected. The EC expects a qualitative change of the mindset on teaching and learning and the scale is that of societal cultural change.

> Life-long learning and all-round education are not achievable without the active and enthusiastic engagement of front-line educators. Parents, and for that matter the society at large, must also embrace this cultural change and lend their support. (p. ii).
>
> The EC fully understands that the mindset on learning and teaching cannot be changed overnight, or through any government edict. The EC has proposed a direction for the reform, but the "paradigm shift" can only be realized with the active participation of frontline educators. Meanwhile, the mobilization of students' participation in the education reform is also an important mission for the EC and the education sector in Hong Kong. (p. 40-41).

The concept of paradigm, adapted from Kuhn (1962/1970), roughly refers to

> the general theoretical assumptions and laws and techniques for their application that the members of a particular scientific community adopt. (Chalmers, 1976/1982, p. 90).

Kuhn was referring to paradigms in the scientific community. A paradigm shift occurs only after a wide-spread psychological crisis has broken out. But this condition is not sufficient. Some novel knowledge needs to appear within the professional community in order that new ideas can develop to create the new paradigm. The Nobel Laureate Wolfgang Pauli's letters are most illustrative of the conditions for paradigm shift:

> Pauli, in the months before Heisenberg's paper on matrix mechanics pointed the way to a new quantum theory, wrote to a friend, "At the moment physics is again terribly confused. In any case, it is too difficult for me, and I wish I had been a movie comedian or something of the sort and had never heard of physics." That testimony is particularly impressive if contrasted with Pauli's word less than five months later: "Heisenberg's type of mechanics has again given me hope and joy in life. To be sure it does not supply the solution to the riddle, but I believe it is again possible to march forward." (Kuhn, 1962/1970, p. 84).

The first condition for a paradigm shift in education in Hong Kong has been satisfied. The super-large number (14,000) of submissions in the first-stage public consultation in 1999 indicated wide-spread dissatisfaction at the education system and high expectation of the EC. For the second condition of novel knowledge, the Policy opines that the traditional paradigm is characterized by passive transmission of knowledge (p. 40, 60) and it has to be replaced by a new paradigm in which knowledge is actively constructed by students (p. 40). A query arises. Although not all teachers

are familiar with knowledge constructivism, most do know that students should learn actively. Many teachers do try to entice students into self-learning but successes are often teacher-dependent and not systemic. For the past decade, the Author has been receiving comments from numerous teachers that students' lack of motivation to learn is probably one of teachers' most persistent problems. Many teachers have learnt about constructivism from tertiary courses but knowing principles and theories is far from sufficient to bring about the corresponding organizational know-how to put the principles and theories into systemic practice. Among educational professionals, the novel knowledge needed for paradigm shift is the organizational know-how. And, when this appears, another level of novel knowledge is also needed, namely the territorial know-how to spread this knowledge. It is necessary to examine the Policy more closely to check on this.

Section C: What Does the Policy Mean by *Lifelong* in Lifelong Learning?

3-34. In Section A, it was found out that the concept of learning referred to by the Policy is essentially knowledge construction by the student and is

survival oriented. In this section, the search for concepts underpinning the Policy is extended from learning to the lifelong element of LLL.

Developing Personal Qualities that are Latent

3-35. The concept of lifelong in LLL in the Policy has the following features:

- It is a continuing effort to explore, to innovate and to adapt to change. (p. 4, 30).
- It is self-directed (p. 3, 29, 32, 36, 40) and according to the learner's own attributes (p. 4, 30).
- It requires *willingness to advance further beyond the existing knowledge level, and to continuously consolidate and upgrade [everyone's] knowledge and ability* (p. 34).
- It is not examination-driven (p. 4, 10) and is enjoyable for everyone (p. i, 4, 5, 36).
- The learner pays attention to *learning to learn* (p. 4, 29).

3-36. In short, the concept of lifelong emphasises the following aspects of learning: (1) continuing effort, (2) transcendence and adaptation, (3) self and personal, (4) enjoyment, and (5) meta-learning (learning to learn). In even more concise terms, the Policy puts more emphasis on the latent qualities of the student - the potential, innovative and exploratory qualities.

and commitment to society's future development - than on his/her manifest qualities - immediate personal academic achievement.

Section D: Summary

3-37. This chapter is a preliminary exploration of the main concepts of the Policy. For the concept of learning, the Policy focuses on the individual student's active construction of knowledge from experience. The focus is narrow and essentially leaves out several aspects of knowledge construction potentially important for the designing the education reform:

- The social aspect of knowledge construction (Prawat and Peterson, 1999; Phillips, 1997; Solomon, 1989; Wong, K.S. 1988);
- The importance of cooperation beyond simple division of labour;
- The synergy that could potentially be produced when knowledge construction is social, eg in the case of schools as learning organizations (Senge, 1990; Senge, *et al*, 2000; 教育署課程發展處 [Curriculum Development Institute, Education Department], 1997; Tang, 1996; Tang and Wong, 1995), or the transfer of essential professional knowledge between schools.

3-38. The Policy judges that in order that one is able to learn lifelong in flexible ways one must develop all-round latent personal qualities during schooling. Attaining generic skills in senior secondary schooling will improve one's employability.

Further Research

3-39. The following chapters will further explore the preliminary observations in the summary by focusing on two aspects of the Policy from the perspective of knowledge management:

A. Management of students' learning

B. Management of teachers' knowledge

Regarding A., the Policy has some new proposals for managing students' learning that students need for managing their economic life throughout their lifespan. By examining the policy tools for implementing these new proposals on student learning, the status of each of these new proposals can be understood and checked against each other and particularly against the explicit Priority. Human delusions associated with the sources of motivation of the education reform can thus be identified. Regarding B., the Policy requires teachers to possess certain kinds of knowledge and employs certain measures for professional development. By examining the nature of the knowledge required, particularly in terms of the social aspect

of knowledge creation, the effectiveness of the proposed professional development strategies can be critiqued. This should lead to better understanding of the sources of expertise required for the education reform.

Chapter Four:
New Proposals for Managing Student Learning

Introduction

4-1. The Policy has certain proposals for managing student learning that stand out *prima facie* as novel in the context of Hong Kong. Many of these were clearly intended for implementation while others might have been rhetorical. This chapter analyses what the Policy means by these new proposals for managing student learning, their corresponding policy mechanisms and deduces their respective status in the Policy. This aims to lead to a better understanding of the motives of the policymakers.

4-2. The following are the policymakers' new proposals for managing student learning:

A. Five types of essential learning experiences

B. Integrated learning

C. Generic skills

D. Key learning areas (KLAs) with integrated subjects

E. More emphasis on Chinese, English and Mathematics

These proposals are hereafter abbreviated as *New Proposals for Student Learning* and will be analysed one after each other.

Five Types of Essential Learning Experiences

Meaning:

4-3. The Five Types of Learning Experiences: The Policy states that five types of essential learning experiences should be provided to students – moral and civic education, intellectual development, social service, physical development, and aesthetic development; a sixth type, work-related experiences, is added at the senior secondary level (p. 15, 19, 32, 45, 58, 60, 99). Two questions arise.

4-4. "Five Types": The first question is, "What does the Policy mean by *five types* in the proposal of *five types of essential learning experiences*?" All the first five types are traditional in local schools although the amount and the variety vary from school to school. It has little impact for the Policy merely to reiterate these five types. However, reading all 35 sentences or paragraphs that contain the term *learning experiences*, it is discovered that the Policy emphasises two things. The first thing is the width of the learning experiences. In these 35 paragraphs, there are 22 adjectives or adjectival phrases that mean *comprehensive*, or

balanced, or *diversified*, or *diverse*, or *all-round*, or *in multiple disciplines*, or *broadening*, or *broader*. The second thing emphasised is the strengthening of the link between schooling and work. The notion of *work-related experiences*, unlike the first five types, has never previously appeared in the form of a policy recommendation for schooling in Hong Kong. At the time of developing the Policy, the EC might have sensed that the increasing severity of the unemployment issues since the economic turmoil in 1997[1] and the increased complexity of the realities of the workplace required more attention than traditional career guidance.

4-5. "Learning Experience": The second question is, "What does the Policy mean by *learning experience*?" The *learning* aspect of *learning experience* was explored in Chapter Three. A search on *experience* reveals that the Policy offers no particular explicit meaning. Instead, the intention of the policymaker has to be inferred by noticing the words with which the term *experience* is associated. It is opposite to *monotonous school life* (p. 4, 29) and to *little room to think, explore and create* (p. 4). It is associated with daily life (p. 11), pleasurable and colourful group life (p. 31), development of attitudes and abilities and construction of knowledge (p. 45), life-wide learning (p. 45), interest in learning, good living habits and

[1] Statistics from the Information Service Department (1997b, 1998, 1999) show the rise in unemployment rates:

Year	1991-1996	1997	1998	1999
Unemployment rate	2-3%	2.2%	4.7%	6.2%

respect for others (p. 49), being coherent and integrated (p. 59), being uninterrupted (p. 62), learning in-depth (p. 93), cultivation of moral values, civic consciousness, national sentiment, and development of generic skills (p. 99), support from the community (p. 150), development of personality, mastering of life skills, broadening of perspectives, enhancement of personal qualities and cultivation of a sense of commitment to society (p. 154, II-1). It is clear that the associated words form a vision/dream of the policymakers; but they might be less meaningful to the general reader.

4-6. The Meanings for Readers of the Document: The two paragraphs above analyse the meanings of the three ideas *five types of learning experiences*, *work-related learning experiences* and *learning experiences* from the perspective of semantics, but not from that of pragmatics - what they mean to the reader might be different. The proposal of *five types of essential learning experiences* functions as a call to respect the traditional Chinese approach to balanced education. All local Chinese in Hong Kong know what *wu yu* [five aspects of education] is. So the message is clear because the meaning pre-exists. *Work-related learning experience* connotes *visitations and workplace attachments* (p. 145), apprenticeship, or traineeship, or the early years in the workplace. People know what these are and the essence of the message is clear though the exact details have to

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For youths in the age group 15 - 19 years, the unemployment rate rose from 10.2% in 1997 to 26.9% in 1999 (Information Service Department, 2000), the year just before the publication of the Policy.

be worked out. The words associated with *learning experiences*, however, are far from clear for the reasons explained below.

4-7. (a) Discrepancy between Codified Knowledge and Tacit Knowledge: In line with the image of traditional education described in the Policy, people educated in the traditional way spend their school life dealing with documented high-status examinable knowledge and expressing it in writing. They study the codified knowledge in the formal curriculum rather than learn it from daily experience. However, there is insufficient understanding about the degree to which students know when, where, and how to use the abstract knowledge they learn in the formal curriculum (Bransford, *et al*, 1999, p. 31). In daily life experiences, they construct and use a different alternative framework of knowledge, usually tacit, unchallenged, low-status, personal, and often in conflict with the codified knowledge above (Driver, *et al*, 1985). People associate what they learn from experiencing something real-life with various concepts like experience, practical ability, tacit knowledge, implicit knowledge, street wisdom. They are aware that this kind of knowledge is different from the codified high-status examinable knowledge learnt in the formal curriculum although few of them can systematically tell what they have learnt and how they have learnt it. The cognitive gap between the formal knowledge and the alternative knowledge is huge (eg Biggs, 1991). By formally prioritizing the idea of *learning experiences*, the policymakers send a

message, probably unconsciously, that it is the alternative knowledge that brings real learning, and hence that it matters in education. However, people educated in the traditional way would find it extremely difficult, even vicariously, to realize how they could learn formal high-status knowledge from daily-life experiences – or, in professional terms, how to narrow the cognitive gap. This mix of doubt and lack of empathy is difficult to reconcile. But, they are excusable, for the Policy has made no attempt at reconciliation. Possibly the policymakers were not explicitly aware of this cognitive gap. This can be confirmed by the fact that the Author cannot find how the Policy addresses the students' alternative frameworks in learning. For example, the Policy could have used the student assessment at P3, P6 and S3 to evaluate students' alternative learning frameworks; this might have helped teachers and students to identify and focus on the cognitive gap in learning. Instead, the Policy uses the mechanism solely for assessing competencies in Chinese, English and Mathematics, without even mentioning the concepts of alternative conceptual frameworks and tacit knowledge.

4-8. (b) Discrepancy between Joy and Being Hardworking:

Traditionally, Chinese believe in *ku gong* [painstaking effort]. It is not only a virtue but also the key road to success. *Ku* means hardship, suffering, and pain. Another popular saying is "*Qin you gong; xi wu yi.*" [Being hardworking is a merit; playing leads to no benefit.] Hong Kongers,

under intense business competition, have fully experienced both the hardship and the resulting success. To them, to be successful in learning, one has to put in painstaking effort. Although the Policy has associated joy in learning with satisfaction from hard work and achievements in two sentences in the Foreword (p. i-ii), these two sentences, unsupported by any theory or examples, cannot discuss the subtlety of the concepts, let alone persuade people of their importance. Other adjectives like *pleasure* (p. 76, II-2), *colourful* (p. 31, 115), and *interesting* (p. 154, II-2, II-3) are also closely linked to successes in learning. The policymakers' belief in the importance of enjoying learning is clear but teachers would be puzzled: "What would such a learning experience be like subjectively?" "How can such an experience be organized in the classroom?" "Is there reasonable theoretical support for such a request?" The words describing the notion of *learning experiences* in the Policy are in small, different, and unconnected sections scattered here and there in the Policy document. To summarise, the Policy has not reconciled the conceptual gaps (1) between the documented knowledge in the school syllabus and the implicit knowledge learnt by the readers from their experiences, and (2) between joy and effectiveness in learning.

Policy Mechanisms:

4-9. Symbolic Priority Setting: Three policy mechanisms are proposed in connection with this *new proposal for student learning*. The first is the creation of three terms - *five types of essential learning experiences*, *learning experiences* and *work-related experience* as symbols representing what the Policy values.

4-10. Information Giving: The second policy mechanism is information giving. The Policy proposes supply of information and courses to teachers (p. 151-152). Unfortunately, these means are simply included within a routine list of nearly all popular formats of professional development existing in Hong Kong or elsewhere. There is no specific matching of this policy mechanism to any *new proposal for student learning*. Without specificity, mere information giving hints at a low-status policy mechanism.

4-11. Delegation of Responsibility: The Policy proposes a third policy mechanism:

> The CDC [Curriculum Development Council] is now conducting a holistic review of the primary and secondary school curricula, and is in the process of formulating an open and flexible curriculum framework to tie in with the aims of education. Based on the framework, the CDC will also prepare curriculum guides that will outline the learning experiences to be provided and the attitudes, abilities and knowledge to be cultivated at every key learning stage of school education. Different examples will be provided for teachers' reference. Schools are expected to develop their school-based curricula basing (*sic*) on the framework. (p. 64).

On the one hand, the policy mechanism of delegating responsibility to the CDC appears more positive. The matter is to be taken up by another government consultative committee that specialises in curriculum matters. This guarantees that the matter will be followed up. On the other hand, *formulating . . ., prepare curriculum guides . . .*, and *different examples will be provided . . .* in the quotation are saying that the CDC is also adopting information giving as the main policy mechanism.

4-12. Checking Meanings from the CDC Curriculum Policy: Checking the policy mechanisms in the curriculum policy document published by the CDC in 2001 will throw further light on the EC's policy mechanisms. *Learning to Learn* (hereafter referring to the document or the writer of the document) follows up at the point where the Policy delegates its curriculum-related responsibility. First, *Learning to Learn* writes about *five essential learning experiences* and *career-related experiences*, listing tersely what each of the five types of essential learning experiences should develop:

- Moral and civic education - developing
  - personal character and interpersonal skills
  - respect for others
  - perseverance
  - national identity
- Intellectual development
  - laying a firm foundation of knowledge
  - enjoyment in learning

- Community service - developing
  - commitment
  - responsibility
- Physical and aesthetic development
  - leading to healthy living styles
  - appreciating aesthetic qualities
- Career-related experiences
  - linking studies with career aspirations and job opportunities (CDC, 2001, p. 20).

Yet this list seems contrived; for example, the sense of *responsibility* can be developed not merely from a *community service* experience but in nearly any context. These human values and feelings are fundamental and general. Their development depends more on the way a learning experience is lived through personally rather than on the top-down artificial classification of the experiences. It seems likely that the list serves other intentions, principally: (i) administrative: suggesting a way to divide labour among government officers in the EMB or among teachers in a school and (ii) political: showing to the public that the CDC supports this new proposal of the EC for managing student learning.

4-13. Meaning of *Learning Experience* in the CDC Curriculum Policy: The keyword *learning experience* appears 62 times in *Learning to Learn*, showing that this idea has been used frequently. Most usages of *learning experiences* are replicates of the usages in the Policy, with only a few exceptions. The following example adds meaning to the concept of

learning and serves as a guide to teaching; but the meaning of *experiences* in the usage has already been assumed and continues to remain implicit:

> We have to move away from the concept of the curriculum as "documents" to the concept of the curriculum as "learning experiences" to enhance the effectiveness of learning.
>
> Learning experiences are a nexus of
>
> ⇨ aims
>
> ⇨ learning processes
>
> ⇨ learning contents
>
> ⇨ social environment (CDC, 2001, p. 19).

Using the concepts of constructivism, this quotation can be seen as a message asking educators to pay more attention to a *process* that helps students to construct their own knowledge than to knowledge constructed by external authorities. This message is a form of guidance to teachers rather than an explanation that can facilitate the reader to understand the vision of the policymakers about the process *per se*. Nor can the message reconcile joy and hard work in learning.

4-14. Confirming Policy Mechanisms in the CDC Curriculum Policy: The paragraphs containing each of the 62 appearances of the keyword *learning experiences* were studied and no policy mechanism was found additional to those mentioned in the quotation in Paragraph 4-11. *Learning to Learn* prioritises some new symbols, eg *Seed projects* (CDC, 2001, p. 107) and the *curriculum bank* (CDC, 2001, p. 109) but the basic ideas themselves had already been mentioned in the Policy as *research on new*

pedagogical methods and . . . pilot schemes on key curriculum reform items (CDC, 2001, p. 153) and *databases for teaching resource* (CDC, 2001, p. 151) respectively. Although the Curriculum Development Institute (CDI) is expected to put in a huge amount of effort to give information to teachers, there is no additional policy mechanism.

4-15. Conclusion: The argument so far suggests that the status of this *new proposal for student learning* of *five types of essential learning experiences* is medium low. The main policy mechanisms are symbolic priority-setting and information giving, with some provision for research and development. The Policymakers' vision of *learning experiences*, despite being linguistically very comprehensible and relevant to the Priority *prima facie*, remains conceptually distant from people. The main reason is that people, educated under the traditional education paradigm have a very different preconception of the kind of knowledge experientially learnt. Unless people have some opportunities to learn knowledge in the formal curriculum by living through the learning experience advocated in the Policy, at least vicariously, the policy mechanism of information giving is likely to be adversely affected.

Integrated Learning

Meaning:

4-16. While putting essential learning experiences into types, the Policy proposes the idea of *integrated learning*:

> Shifting from Compartmentalised Subjects to Integrated Learning: To tackle the problems we encounter in daily life and in the workplace, we often need to draw on the knowledge and skills that straddle different domains. . . . Schools should help students develop abilities and skills for analysing issues from different angles and applying knowledge of different domains through integrated learning. (p. 61).
>
> The [CDC] framework embodies the . . . five important learning experiences that could be obtained from integrated learning in and outside the classroom to achieve all-round development. (p. 58).

The two quotations show that *integrated learning* is that which (1) connects knowledge from different domains and/or (2) connects formal and non-formal curricula. The technical purpose of the proposal of *integrated learning* is to create the five types of important learning experiences and its educational aim is to prepare students to solve authentic problems in daily life and in the workplace.

Policy Mechanisms:

4-17. The policy strategy for implementing the proposal of *integrated learning* is vague to the point of uselessness, as the following shows:

> We propose that, as schools gradually master the skills of teaching across different subjects, the various subjects may be duly integrated to enable students to have a more coherent and integrated learning experience. (p. 59).

This is a tactful way of saying that the proposal of *integrated learning* has next to no place in implementation of the Policy. The education reform is a huge endeavour and Hong Kong's fiscal budget is still in structural deficit (Tung, 1998; Tung, 2000; Tung 2004; Tang, 2005). Even some specific concrete proposals might not be financially affordable. The outlook for the *new proposal for student learning* of *integrated learning* is pessimistic.

4-18. Further Implication for the Status of the Proposal of "Five Types of Essential Learning Experiences": There is a confusing message if one links the last two quotations, in Paragraphs 4-16 and 4-17 respectively. The message seems to be that the four acts of (1) teaching across different subjects, (2) integrating various subjects, (3) integrated learning, and (4) obtaining the five types of important learning experiences are to be in consecutive order of implementation. It is noted that each of the terms in the last two quotations could be understood in different ways by different educators and the sequencing raises conceptual and practical queries. It suggests that the policymakers did not deliberate thoroughly on how to implement these concepts, and confirms the pessimistic outlook for the proposal of *integrated learning* arrived at in the last paragraph. The status of the confused concept of *learning experience* is likely to be low.

Generic Skills

Meaning:

4-19. It was observed in Chapter Three that there are two lists of *generic skills* in the Policy document:

- Language, communication, numeracy and information technology skills as well as ability for teamwork. (p. 88, 89)
- Communication, numeracy, learning, problem solving, information technology, critical analysis, creativity, collaboration and self-management. (p. 100).

The two lists are very different, the first list being specific skills while the second refers to a mix of human acts and faculties. This shows either the policymakers' eclecticism or their lack of careful deliberation. It indicates that the policymakers are less concerned with the substance of the items of the list, the skills *per se*, than with the purpose of the list as a whole. The elements of the second list would not be called skills under ordinary language usage. Rather, personal strengths in these elements would constitute abilities for social construction of knowledge or *lifelong learning abilities* (Marzano *et al*, 1993). Yet these elements are strangely called *generic skills* in the Policy. The notion of *generic skills* connotes a better match between current workplace demands (Guile, 2002; de la Harpe *et al*, 2000) and the envisioned skills of graduates. Traditionally, students,

influenced by parents and teachers, want to be professional specialists and the education system has been supplying professionals. Employers increasingly want a lean but more versatile workforce to deal with ever-changing situations in the information age. The Policy proposes that students should develop generic skill*s* at senior secondary education (p. 100, 103) and their first degree in higher education (p. 104, 124). The term *generic skills* indicates that the EC perceives the second list as a market product of senior secondary and first degree higher education rather than as a list of abilities that would help students in social construction of knowledge from childhood to retirement. The purpose is clearly demand-oriented vocational preparation and graduates have to be employees with ability to use knowledge flexibly.

Policy Mechanisms:

4-20. In Senior Education and Higher Education: The Policy indicates that the CDC has already made the necessary recommendation:

> To revise as necessary the existing curricula at the HKCEE[2] level and the AL/AS[3] level and to enhance students' generic skills (e.g. creativity and problem solving skills, etc.) according to the latest curriculum framework proposed by CDC. (p. 101 – 103).

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[2] HKCEE stands for *Hong Kong Certificate of Education Examination*. It is the public examination for Secondary Five students mainly for certification purposes.

[3] AL stands for Advanced Level and AS stands for Advanced Supplementary. AL is a public examination for Secondary Seven students mainly for obtaining university admission requirements. An AS Level subject is taken as half an AL subject in terms of requirements in many situations.

This is a fairly strong policy mechanism in education. The reasons are that (1) it had already been recommended by a governmental consultative council before the publication of the Policy and its subsequent adoption by the Chief Executive of the HKSAR; (2) it is tied up with two terminal examinations with a large number of graduates; (3) the examinations are publicly administered by a specialist body with public credibility, the HKEAA; (4) the EC believes that "if properly leveraged, public examination can be an effective assurance mechanism for learning" (p. 41) and the interface between the various key stages of education constitute the leverage points to effect all-round personal development (p. 138).

4-21. In Basic Education: While the status of *generic skills* is generally high, its status in basic education is low; the term *generic skills* does not appear anywhere outside senior secondary education and first degree higher education.

Key Learning Areas (KLAs) with Integrated Subjects

Meaning:

4-22. Key Learning Areas: In chapter 3 (Paragraph 3-24), it was noted that the proposal of *key learning areas* partitions the school curriculum into

similar subjects in order that students would have balanced curricular exposure.

> All existing subjects are suitably incorporated into eight Key Learning Areas (KLAs) in the curriculum framework: (p. 59).

The Policy does not explain what *suitably* in the quotation means but the names of the KLAs (Paragraph 3-24) suggest a traditional epistemological and/or administrative classification.

4-23. Two Integrated Subjects: The notion of KLA is a loose form of curriculum integration, grouping similar subjects. When subjects are grouped together more tightly an integrated subject is created. Two integrated subjects, namely Integrated Humanities and Integrated Science and Technology are being created as subjects in the Hong Kong Certificate of Education Examination. They are intended to serve students who intend to take only one subject in the KLA of Personal, Social and Humanities Education or only one subject in the two KLAs of Science Education and Technology Education (p. 102).

4-24. Essentially Logical and Epistemological Considerations: The Policy does not indicate the nature of *integrated subjects* but the names *Integrated Humanities* and *Integrated Science and Technology* and their close connection with the structures of the curriculum and public HKCEE suggest that the type of curriculum integration is structural. Two past examples of structural curriculum integration are the familiar integration of

Arithmetic, Algebra, Geometry, and Trigonometry to form Mathematics and the integration of Reading, Writing, Listening, and Speaking to form English, where the structure of knowledge is reorganised mainly along logical and epistemological principles (Ingram, 1979). The other type of curriculum integration, functional curriculum integration, views knowledge as a resource to be used for the promotion of integrative experiences along psychological and social principles. Psychological and social considerations are more relevant to the Priority since the latter type is more about socio-psychological development of the person than school subject development. Yet, it is not evident that the proposal for *integrated subjects* is based on psychological and social considerations.

4-25. Deeper Meaning: Replacing the Administrative Functions of the School Subject: Traditionally, the school subject is a fundamental unit that gives structure to the school curriculum and the subject panel is a parallel fundamental unit for school administration. Teachers think in terms of subjects, teaching carried out in terms of subjects, assessment in terms of subjects, academic planning in terms of subjects, giving student choices in terms of subjects, etc. The school is run in terms of subject panels, teachers managed in terms of subject panels, teaching resources allocated in terms of subject panels, curriculum policies monitored in terms of subject panels, etc. The Policy presumes the acceptance of the proposal of

KLA as a fundamental unit that essentially replaces the function of the school subject. For example,

> [The] EC proposes to introduce Basic Competency Assessments in Chinese, English and Mathematics (BCA) to . . . provide the Government and school management with information on schools' standards in key learning areas so that the Government will be able to provide support to those schools in need of assistance, and to monitor the effectiveness of education policies. (p. 67-68)
>
> System . . . tests should be administered centrally at P3, P6 and S3 to ensure that schools have met basic standards in key learning areas. (p. 46)
>
> [The] focuses of the reform of the senior secondary curriculum [are] . . . [to] provide a broad senior secondary curriculum to enable students to acquire experiences in various key learning areas. . . . (p. 99)
>
> [Schools] can make use of many different modes of broad-based assessments for the eight key learning areas such as formative assessment . . . (p. 63)

On the surface, the proposal of KLA would only serve to ensure balanced distribution of each student's choices of subjects in the curriculum and in examinations. An implicit deeper meaning is that it would gradually necessitate the school to run in terms of KLA departments, teachers to be managed in terms of KLA departments, teaching resources to be allocated in terms of KLA departments, curriculum policies to be monitored in terms of KLA departments, etc. Those schools doing otherwise would be likely to cause themselves extra administrative inconvenience.

Policy Mechanisms:

4-26. The policy mechanism employed is immediate constructive action on the part of the Government. This carries implications for the school, eg the first quotation carries resource implications. In addition, the proposal of KLA is linked to the administration of (1) the centrally administered Basic Competency Assessments to be taken by all students at P3, P6 and S3 levels, and (2) the university admission requirements. The status of KLA is high at all levels from junior primary to senior secondary.

More Emphasis on Chinese, English and Mathematics

Policy Mechanisms:

4-27. Findings: This Policy is not directly about Chinese, English and Mathematics but they have unusual positions in the Policy and acquire new significance. The keyword *English* was searched. There were 32 occurrences, with *Chinese* occurring simultaneously in 31 occurrences. None of these 31 occurrences is directly about teaching and learning. In all the 31 occurrences, both English and Chinese are something to be tested or examined:

A. Chinese and English are tested in both the Student Assessment and the System assessment of the Basic Competency Assessment (BCA), which is to be conducted to all students at P3, P6 and S3 (p. 10,

16, 46, 57, 64, 68, 144, II-1, III-1). The purposes of the BCA are stated as to:

> (a) enable teachers and parents to understand students' learning needs and problems so as to facilitate timely assistance. Apart from helping students attain basic standards, appropriate measures should also be implemented to help students develop their various potentials;
>
> (b) provide the Government and school management with information on schools' standards in key learning areas so that the Government will be able to provide support to those schools in need of assistance, and to monitor the effectiveness of education policies. (p. 68 – 69).

The policy mechanism employed in this case is constructive policy action for helping schools to give information to students and for regulating Chinese, English and Mathematics standards while controlling schools. *Provide support* and *monitor the effectiveness* can be differently interpreted by different government officers.

B. A pass in English at HKCEE level will become a new requirement for early childhood teachers (p. 13, 50). The policy mechanism is a strong regulatory measure.

C. A feasibility study of a public examination in Chinese and English at various proficiency levels will be carried out (p. 20). The policy mechanism requires research and development (R&D) of a regulatory measure.

D. Attaining a basic standard in Chinese, English and Mathematics is recommended as a requirement for promotion to S4 (p. 90). The policy mechanism is a regulatory measure. This is not likely to be merely symbolic priority setting because this measure can easily be carried out by schools and easily controlled by the Government.

E. The HKEAA has been working on defining grade E in HKCEE to indicate attainment of basic skills and knowledge by S5 students while keeping grades A to D essentially to indicate candidates' relative positions along the normal curve. The Policy expects this core-competence approach to be adopted for Chinese, English and Mathematics at the earliest opportunity (p. 93, 106, 108). The policy mechanism is a regulatory measure aiming at giving high priority to Chinese, English and Mathematics.

F. The Policy is studying the feasibility of holding two HKCEEs for Chinese, English and Mathematics each year and they would be open to students and working people alike (p. 108). The policy mechanism is an R&D aiming at facilitating the quality control function of public examinations in Chinese, English and Mathematics.

G. Chinese, English and Mathematics at HKCEE and Chinese and English at HKASL are to be taken by all senior secondary students (p. 102, 103, 117). The policy mechanism is a regulatory measure; students would not risk not taking these subjects. Also, universities are strongly requested not to relax the minimum admission requirement of passes of both Chinese and English. This regulatory measure is weaker since universities are autonomous.

H. There is a suggestion that undergraduates should be required to pass some basic assessments on Chinese, English, and Information Technology before they graduate (p. 123). Again the universities are autonomous.

4-28. Observations: It can be observed that

- Both the number and variety of assessment mechanisms related to Chinese, English and Mathematics are likely to be increasing in the near future.
- These assessment mechanisms affect not just the education sector but also the general public.
- All the assessment mechanisms are regulatory in nature and most of them are backed up by other policy mechanisms of constructive action or R&D.
- These assessment mechanisms are administered by high-status credible public bodies at strategic time points along the academic structure.
- At or below the AS Level, the assessment of Mathematics is in effect as compulsory as the assessment of Chinese and English. At AL or above, Mathematics is not seen as equally important as Chinese and English. The keyword *Mathematics* appears only 23 times in the Policy document, each time being with Chinese and English.

It can be seen that the status of the proposal of *more emphasis on Chinese, English and Mathematics*, particularly on Chinese and English, is very high in the education system in the eyes of the policymakers. However, the emphasis on Chinese, English and Mathematics is all biased towards

regulation and control. Nothing is said specifically about the learning and teaching of Chinese, English and Mathematics.

Summarising the Findings on Status

4-29. The above findings and judgments are now juxtaposed for comparison. They will be matched against the Priority in Chapter Five.

New Proposals for Student Learning	Status	Policy Mechanisms and Comments
More emphasis on Chinese and English	The highest status	➢ Regulatory and control measures are proposed. ➢ It affects all levels, from BCA in basic education to university graduation requirements. ➢ It affects the public as well. ➢ The variety and number of assessments are increasing. ➢ High-status public bodies are responsible.
More emphasis on Mathe-matics	Very high status	➢ The policy mechanisms and comments are the same as those in *More emphasis on Chinese and English*, except that the former apply only to levels at HKASL or below.
KLA with integrated subjects	High status from junior primary to senior secondary	➢ Immediate constructive actions are proposed. ➢ It is applicable from junior primary to senior secondary education. ➢ It is linked to BCA and all-round education at university admission. ➢ It is linked to Chinese, English and Mathematics. ➢ It would carry administrative implications and administrators in general have high status in Hong Kong.

Generic skills	High status in senior secondary education.	➢ Constructive policy actions are used immediately. ➢ It has already been recommended by a government consultative council before the publication of the Policy. ➢ It is tied up with two terminal examinations. ➢ A high-status public body is to administer the examinations.
	Low status in basic education.	➢ Basic education has weak connections with employment
Five types of essential learning experiences	Medium low, or low	➢ Symbolic priority-setting is proposed. ➢ Information giving is proposed. ➢ R&D is likely to be used; but R&D is not limited only to this *new proposal for student learning.*
Integrated learning	Lowest.	➢ No policy mechanism is attached.

Chapter Five:

Matching the New Proposals for Student Learning against the Priority of the Education Reform

Introduction

5-1. Chapter Four analysed the meanings of each of the *new proposals for student learning* in the Policy, and their corresponding policy mechanisms, and deduced their respective status in the Policy. This led to an understanding of the relative emphasis of the policymakers on the various *new proposals for student learning*.

5-2. This Chapter considers the priority of the education reform (the Priority), which is stated explicitly in the Policy:

> Our priority should be to enable our students to enjoy learning, enhance their effectiveness in communication and develop their creativity and sense of commitment. (EC, 1999b, p. 15; EC, 2000, p. 4).

The stated Priority might not be consistent with the relative emphasis of the policymakers on the different *new proposals for student learning*. This chapter first examines what the Policy says about the Priority and then

proceeds to evaluate the relevance of each of the *new proposals for student learning* to the Priority. This leads to an understanding of the real motive of the policymakers.

5-3. The Priority of the Education Reform as a Response to Public Concerns: The stated Priority claimed to be a summary of 14,000 submissions from the public in response to the governmental consultation in January, 1999 (EC, 1999a) and was then published in September, 1999 (EC, 1999b, p. 15). Subsequent policy development aimed to follow this formally recognised public opinion. Indeed, the EC confirmed the Priority later when the Policy document was published in 2000 (EC, 2000, p.4). This chapter is essentially devoted to matching the meaning of each *new proposal for student learning* to the Priority. For such matching, this chapter will treat the Priority as four different – despite their interdependence – evaluation criteria emphasising four socio-psychological elements of the person. The four criteria are:

- *To enable our students to enjoy learning* [Joy criterion],
- *enhance their effectiveness in communication* [Effectiveness in Communication criterion] *and*
- *develop their creativity* [Creativity criterion] *and*
- *sense of commitment* [Commitment criterion] (p. 4).

These four different criteria are collectively referred to as the Priority criteria.

Examining the Meanings of the Four Priority Criteria

5-4. It is first necessary to see what the Policy means by each of the four Priority criteria before using them as evaluation criteria for each of the *new proposal for student learning*.

The Joy Criterion:

5-5. Keyword Search: The meaning of *to enable our students to enjoy learning* in the Policy is found by searching for the keywords *joy*, *enjoy* and *enjoyable* and selecting the relevant usage. Occurrences of the keywords are found on pages i, 4, 5, 30, 36, 38, and 57. However, only the following quotation from page i suggests a definitive quality.

> Learning should be enjoyable and it does not follow that students will not work hard. It is only through hard work and achievements that they will derive satisfaction and joy. (p. i—ii)

It points out that joy is accompanied with the satisfaction obtained from hard work and achievements. Since joy is considered consistent with hard work, the former does not mean hedonistic pleasure. There are two sentences which suggest that joy in learning is associated with *inspiring environment* (p. 30) and *meaningful life* (p. 38). However, these two sentences do not define *joy*.

The Effectiveness in Communication Criterion:

5-6. Keyword Search: The meaning of *to enhance* [our students'] *effectiveness in communication* in the Policy is found by searching for the keywords starting with *communicat-* and selecting the usage relevant to defining effectiveness in communication. It is found that *communication* is often included in lists, eg a list of generic abilities (p. 60) or a list of generic skills (p. 88, 89, 100). However, this is not useful for the purpose of this chapter. There are two reasons. First, being a generic skill is not a definitive property of effectiveness. Secondly, using *generic skills* to define effectiveness in communication makes this research circular since *generic skills* is a *new proposal for student learning*, which is to be examined for its relevance to the Effectiveness in Communication criterion.

5-7. Aiming at Constructing Knowledge: The keyword search also finds the following sentence:

> . . . students . . . should take the initiative to think, question, communicate, collaborate, participate, experiment and explore so as to construct knowledge, . . . (p. 150).

Thus, the Policy assumes that a purpose of communication is for constructing knowledge; hence one meaning of *effectiveness in communication* is the effectiveness in using communication for the purpose of constructing knowledge. However, throughout the Policy document,

there is no explicit expression of any definitive qualities of *effectiveness of communication.*

The Creativity Criterion:

5-8. Keyword Search: The meaning of *to develop* [our students'] *creativity* in the Policy is found by searching for the keywords starting with *creativ-* and selecting the relevant usage. It is found that by creativity, the Policy associates

- a *prerequisite for success* (p. 3), a *basic ability* (p. 9), a *generic skill* (p. 100, 103), a *personal quality* (p. 114), a *higher order thinking* (p. II-2), an *element of gifted education*,
- *a learning environment that will induce students to be curious, to question and to explore* (p. 34),
- the quality displayed by students when *more flexible modes of examination* is adopted (p. 44), and
- the quality discouraged by rote learning (p. 107).

None of these descriptions gives the central meaning of the concept of creativity itself.

The Commitment Criterion:

5-9. Keyword Search: The meaning of *to develop* [our students'] *sense of commitment* in the Policy is found by searching for the keywords starting with *commit-* and selecting the relevant usage. It is found that the entities

to which students should be enabled to develop commitment are *our families* (p. 32); *our society* or *our community* (p. 32, 45, 61, 110, 114, 149, II-1); *our country* or *our nation* (p. 28, 45, 60, II-1). There are also suggestions on how to develop the sense of commitment. Two examples are:

> The CDC will ensure that the curriculum as a whole will enable students to have a better understanding of their country in order to enhance their identification with and commitment to their country. (p. 60).
>
> Schools may also collaborate with different service organizations, such as uniform groups, youth service organizations and cultural bodies to organize life-wide learning activities which are conducive to developing students' positive values and attitudes such as civic-mindedness and commitment to the country and the community. (p. II-1).

There is, however, no definitive description of the concept of commitment in the Policy document.

A Common Emphasis of the Four Priority Criteria – Overall Self Development:

5-10. Inner Qualities of a Person. It can be observed that there is a common element in the four Priority criteria. All the four qualities are latent inner qualities of the person. The following paragraph appearing in keyword searches for both *communicat-* and *creative-* is illustrative.

> In a knowledge-based society, the knowledge cycle is short and information spreads fast. The workplace requires more than ever before good *communicative skills*, adaptability, abilities for cooperation, self-learning, exploration and independent thinking as well as *creativity*. High demands are now placed on the

> individual's personal qualities; even the training for a specific vocation should *go beyond the teaching of skills* and aim to enhance *the inner qualities of a person.* (p. 38). [Author's italics].

The keyword search for *joy* found the words *satisfaction* from hard work and joy from *meaningful life*. These are qualities related to a person's motivation that is intrinsic rather than extrinsic. As for the Commitment criterion, although the keyword search was not fruitful in terms of identifying definitions, the concept of commitment is certainly a quality in the private inner world of a person that induces a will to spend time, energy and resources.

5-11. <u>The Inner Agent</u>: This common element is consistent with the *focal point* of the entire reform – *lifelong learning* and *all-round development* (p. i) (Chapter Three). It has been found that the Policy puts more emphasis on the latent qualities of the student (Paragraph 3-35) – the potential, innovative and exploratory qualities, and commitment to society's future development – than on his/her manifest qualities – immediate personal academic achievement. In addition, the prefix *self-* appears 40 times in the Policy document, eg *self-advancement* (p. 36), *self-learning* (p. 38). The self, as used in the majority of these cases, can be seen to represent an inner agent with controlling and directing functions over a student's motives.

5-12. Overall Development of the Self: Hence, applying the Priority criteria to evaluate the *new proposals for student learning* suggests that the overarching emphasis of the Priority criteria is on the overall development of the self, for example intrinsic motivation for learning, personal meaning, etc rather than on, for example, extrinsic motivation for learning, or externally controlled behaviours or specific overt skills.

Need for Enriching the Meanings of the Priority Criteria:

5-13. Since the Policy itself provides only scanty traces of meanings of the concepts of joy in learning, effectiveness in communication, creativity and sense of commitment, the Policy must have assumed that these concepts are sufficiently well known and non-controversial to the public and to educators. So, for the purpose of examining the relevance of the *new proposals for student learning* to the Priority criteria, the Author will supplement analysis of the Policy's meanings, when necessary, with compatible corresponding meanings found in public literature, as long as the source of the latter is clear to the reader so that the reader can judge the acceptability of the external meanings.

5-14. The chapter now proceeds to evaluate the relevance of each of the *new proposals for student learning* to the Priority.

Evaluating the New Proposal for Student Learning of More Emphasis on Chinese, English and Mathematics

The Effectiveness in Communication Criterion:

5-15. The Communicative Aspect: Chinese and English are languages and they include the most widely used human communication codes in comparison to all other communication codes, such as musical notation or map legends. Mathematics codes are the second most widely used, especially when very exact, logical, and error-sensitive communication is required. Clearly, this *new proposal for student learning*, which refers to the school subjects Chinese, English and Mathematics, is very closely related to learning how to use these codes to communicate effectively. However, *effectiveness in communication* is different from *communication*. The evaluation of this *new proposal for student learning* has to proceed in more depth.

5-16. Limited to Tests and Examinations: It has been found that all the policy mechanisms for this *new proposal for student learning* are related only to tests and examinations of various kinds (Chapter Four). It is doubtful whether overall improvement of effectiveness in communication can rely exclusively on improving the assessment system in Chinese, English and Mathematics.

5-17. Allowing Students and Teachers Certain Control: It would be unfair not to mention that the Policy replaces the existing Academic Aptitude Tests with the Basic Competency Assessments (BCAs) in the three KLAs of Chinese, English, and Mathematics and that the Student Assessment component of the BCAs employs online student tests which allow students and teachers certain control over when to take the test. This self-control characteristic substantiates the Policy's claim that these online student tests are formative in nature. But, can this claim of formative nature help the BCAs contribute to the Effectiveness in Communication criterion?

5-18. Limited to Semantics and Syntactics: Appendix III of the Policy document confirms that the content of the BCAs *is closely related to the teaching content and covers the major topics in the school curriculum* (p. III-1). Despite this common-sense relevance, existing local school curricula of the three subjects/KLAs are not mainly focused on effective communication. The primary concerns are the meanings of the words, phrases, and sentences (semantics concerns) and grammar for connecting them (syntactics concerns) while the concerns about the actual purposes and *effects on the receiver* of the meaningful uses of the words, phrases and sentences (pragmatics concerns) (Flew, 1979, p. 323) are merely secondary and common to other school subjects.

5-19. Irrelevance to the Quality of Honesty, an Inner Aspect of Effectiveness of Communication: It is necessary to point out that tests and examinations, semantics and syntactics are concerned only about the overt aspect of communication, namely the comprehensibility of language and competence in mathematics, but not with inner personal qualities explicitly expected by the Policy (p. 38). Two such qualities are honesty and truthfulness of a person. Regarding honesty, no one would believe in a habitual liar. Since the main purpose of communication in the Policy is the construction of knowledge (p. 150), the receiver of a message will insist that the message is true, so that s/he can share the knowledge in the message. A message suspected to be deceitful cannot be shared and will not be believed. Thus, the communication cannot be effective. Honesty is, therefore, an *inner quality* (p. 38) of a person effective in communication. However, the *new proposal for student learning* of *more emphasis on Chinese, English and Mathematics* is not about honesty of a person.

5-20. Irrelevance to the Quality of Truthfulness, a Second Inner Aspect of Effectiveness of Communication: Regarding truthfulness, everyone would be cautious about a message that could be part of a larger strategic act. For example, a message aiming at intimidating or coercing a person to do something is likely to raise doubts and defence mechanisms, even though the message itself is true. The receiver of the message may choose to lie in order to protect him-/herself. Any knowledge constructed using

such communications is not likely to be valid because consensus is reached only under force. Similarly, any message communicated for the purpose of, for example, eliciting information in order to harm a certain person may actually elicit a lie because the receiver of the former message may be suspicious and decide to protect the certain person. Sincerity in creating knowledge that is genuinely valid is indispensable in order to reach genuine consensus. So, truthfulness is an *inner quality* (p. 38) of a person effective in communication. The *new proposal for student learning* of *more emphasis on Chinese, English and Mathematics* is not about truthfulness of a person.

5-21. Irrelevance to the Quality of Having Commitment to Truth, a Third Inner Aspect of Effectiveness of Communication: A third inner personal quality important for making one's communication effective is the person's commitment to truth. People have much confidence in the truth of knowledge published in academic journals. Careful people would always check information from the media with information from other sources. Similarly, people have confidence in sharing knowledge with someone who is habitually rigorous in demanding truth of information s/he has received. It will take much more effort, eg triangulation of information, to share knowledge with someone who believes in whatever information s/he has received. Thus, having commitment to truth is an *inner quality* (p. 38) of a person who is effective in communication. The *new proposal for student*

learning of *more emphasis on Chinese, English and Mathematics* is not about a person's commitment to truth.

5-22. Irrelevance to the Quality of Openness of Mind, a Fourth Inner Aspect of Effectiveness of Communication: At a higher level of subtlety, openness of mind is also an *inner quality* (p. 38) of a person, important for using communication to construct knowledge. The existence of doubts and queries is fundamental to the success of the process of knowledge construction. Without doubts and queries, false information cannot be scrutinised. What is more important is the right to have the doubts and queries cleared and the cooperation and openness of the person from whom the doubt probably comes. It is a matter of reciprocity; someone who cannot tolerate doubts and queries from other people cannot reach consensus with other people. Hence, s/he cannot be an effective communicator. The *new proposal for student learning* of *more emphasis on Chinese, English and Mathematics* is not about openness of mind.

5-23. Confusion between this Policy and a Previous Policy: This is not to say that comprehensibility in language and competence in Mathematics are not important in education in Hong Kong. Quite the contrary, the Education Commission once devoted a whole report, the Education Commission Report No. 6 (ECR6), to addressing language issues in education. What the Policy has actually done is to use the education

reform as a vehicle to continue working on its language policy delivered in ECR6. But, this is done in an uneasy manner, for two reasons. First, many assessment strategies in Chinese, English and Mathematics are scattered quietly into the central chapters of the Policy document on Focuses of the Education Reform and the Reform Proposals for the Education Reform – p. 43 onwards – without being even mentioned in the earlier foundation chapters on Background to the Education Reform, the Aims of Education for the 21st Century, the Vision of the Education Reform, and the Principles of the Education Reform – p. 27 to p.42. Readers would feel confused and/or suspicious why these assessment strategies are abruptly introduced from nowhere and why only Chinese, English, and Mathematics are included. Secondly, the Policy fails to clarify the meanings of the request from the public, and the Priority, and then treats the concept of *effectiveness in communication* as comprehensibility in language as well as competence in Mathematics. It misleads the public.

5-24. A Real Motive of the Policymakers: The new high-status language assessments that might cause confusion and/or suspicion in the public can be traced to ECR6. The following two quotations come from the consultative document preceding ECR6 and from ECR6 itself respectively:

> With the restructuring of the economy in recent decades, Hong Kong has changed from being a manufacturing centre to the leading financial, banking and

service centre in Southeast Asia. Hong Kong's economy is also rapidly merging with that of the Peal (*sic*) River Delta, with their combined influence spreading further north. These developments have led to an increasing demand for people who are proficient in both English and Chinese (including Putonghua) for positions at the intermediate and higher levels of commerce and trade and in the professions. (EC, 1995, p. 10).

The draft ECR6 recommends that a new Intensive Vocational Language Scheme be launched to provide tailor-made language programmes both in English and Putonghua [ie standard spoken Chinese, not popularly used in Hong Kong at colonial times] for school leavers joining the workforce. This recommendation is supported by the public, by employers and professional bodies such as the Employers' Federation of Hong Kong and the Hong Kong Society of Accountants. However, the business sector has made the point that vocational language courses will need to be objective and result oriented. *Employers urged the Government to take the lead in setting certain vocational language standards and in validating relevant courses.* (EC, 1996). [Author's italics]

These quotations probably suggest the purpose of the language assessments. This purpose can be confirmed by the similar economy/employment orientation of the Policy's two *new proposals for student learning* of *generic skills* and *work-related essential learning experiences*. As for Mathematics, being a traditional core subject, it is probably being routinely treated in a way similar to that for Chinese and English as a balance between arts and science education and between girls' and boys' general interests. It would probably take more effort on the part of the policymakers to explain any exclusion of Mathematics from Chinese and English than its inclusion.

5-25. In a nutshell, the *new proposal for student learning* of *more emphasis on Chinese, English and Mathematics* is certainly related to comprehensibility of language, which is a factor in effectiveness of communication. However, this *new proposal for student learning* is not relevant to the Policy's concern about the overall development of the self. Hence this *new proposal for student learning* is not relevant to the main emphasis of the *Effectiveness of Communication* criterion.

The Joy Criterion:

5-26. The Adverse Effects of Examinations: The policy mechanism for *more emphasis on Chinese, English and Mathematics* is a long list of high-status assessments. For students who have adopted a surface approach or an achieving approach to learning (Biggs, 1991), high-status assessment would reduce their intrinsic motivation for learning, which is closely related to the Joy criterion. The Policy also critiques examination-driven learning:

> All in all, . . . learning effectiveness of students remains not very promising; learning is still examination-driven and scant attention is paid to "learning to learn". School life is usually monotonous, students are not given comprehensive learning experiences with little room to think, explore and create. (p. 4, 29).
>
> Excessive . . . tests and examinations should be eliminated to allow students more time to participate in useful learning activities. (p. 10).

The first quotation points out the adverse effect on the joy of learning. This quotation refers to a qualitative aspect of the issue. The second

quotation points out that tests and examinations, internal and external, have taken up too much time – including preparation time. It is a quantitative aspect. Both quotations consider learning more important than tests and examinations. But the Policy quietly proposes a long list of high-status tests and examinations in Chinese, English and Mathematics. There appears to be an internal inconsistency in the Policy. Can it be satisfactorily explained?

5-27. The Qualitative Explanation: The Policy defends the BCAs, and only the BCA, with the following arguments:

A. The BCAs consist of two assessments, (1) System Assessment (renamed *Territory-Wide Assessment* in 2004) and (2) Student Assessment. For the System Assessment, information on test results is restricted:

> The basic objective of the System Assessment programme is to improve the curriculum and learning and teaching in schools. Since the assessment data of individual schools are for self-evaluation purpose (*sic*), the school management committees including parents should have access to the data. However, the test results of individual schools should not be ranked or made known to the public. The ED [Education Department] should help schools to analyze and make use of the information, and provide support services to help schools make improvement. (p. III-4).

B. The Student Assessment, the second assessment of the BCAs, is different from a traditional examination; it is an internal assessment:

> The major function of internal assessment is to facilitate learning and teaching and help teachers understand the learning progress and needs of their students. It should be used as a reference for planning the

> curriculum, designing teaching methods and giving guidance to individual students to enhance the effectiveness of learning and teaching. (p. 10).

C. The Student Assessment is also a formative assessment:

> We recommend the use of various modes of assessment, including flexible formative assessment. Quantitative assessment should be minimized to make way for more analytical assessment that produces a more comprehensive picture of the performances and needs of students in different areas. (p. 10).

Student Assessment employs online student tests which allow students and teachers certain control over when to take the test (p. III-1).

5-28. <u>How Convincing Are these Arguments? Argument A:</u> Sharply inconsistent with Argument A concerning the System Assessment, an EMB officer announced in a newspaper on 21 April 2004 (〈系統評估料 3 年後公開成績〉 [Results of System Assessment expected to be made known to the public in three year's time], 2004, April 21), that in about three years time when the BCAs should be *mature* and well accepted by the public, the results of individual schools in the System Assessments of the BCAs would be open to the public. This is a puzzling and disturbing announcement from the EMB. For it is exactly the maturity of the System Assessment that is likely to distort the initial intention of the BCA designer. The twenty-year history of the Academic Aptitude Tests (AAT), abolished by the EC in 2000, had already demonstrated the *maturity effect*. The Policy states:

> The [AAT] was designed to assess students' reasoning ability. In principle, there was no need for students to make any preparation. But as the result of the test had a bearing on the allocation of S1 places, some schools drilled their students for the test. The curriculum in primary schools was therefore much distorted, affecting students' comprehensive learning life and hampering their whole-person development. The situation had become so worrying that a resolute decision had to be made to abolish the AAT immediately. (p. 76-77).

In fact, as the AAT became more *mature*, primary schools knew their relative positions better, even though the test results were restricted. As more people knew these relative positions, the primary schools felt that their school's reputation and popularity were at stake. They then separately drilled their own students for test purposes, ultimately distorting learning in primary schools. So, the announcement disregarded Argument A of the Policy. Additionally, there are two flaws in Argument A itself. First, restriction of information on test results can be defeated by the maturity of the test. Secondly, *the bearing on the allocation of S1 places* is not the only cause of competition; the reputation and popularity of individual primary schools is another significant factor and this factor is neglected by the Policy.

5-29. How Convincing Are these Arguments? Argument B: The quotation in Argument B carries two flaws. First, there is confusion over the distinction between the concepts of internal assessment and formative assessment. *To facilitate learning and teaching and help teachers understand the learning progress and needs of their students* is the major

function of formative assessment, not necessarily that of internal assessments. In fact, many schools have been using internal assessments – tests and term-end examinations – essentially in summative ways, for example for promotion or streaming. This confusion leads to the second flaw: There had always been internal assessments in primary schools before the abolition of the AAT. Creating the Student Assessment as an additional internal assessment for schools, no matter how well designed by the Government, does not necessarily minimise the adverse psychological effect, if any, of the System Assessment or reduce the amount of summative internal assessments in schools.

5-30. How Convincing Are these Arguments? Argument C: There are two doubtful points. First, although formative assessments are very much needed to change traditional teaching and learning, there seems to be confusion in the quotation between the concepts of qualitative assessment and formative assessment. Although assessments with qualitative feedback are generally more constructive for student learning than assessments reporting only marks and grades, the former does not necessarily have a formative purpose, an example being giving comments on students' personality traits. Secondly, on the one hand, the online test items of the Student Assessment would be set on topics in the published standard central subject curricula of Chinese, English and Mathematics such that they are general enough to be taken by any student in Hong Kong. On the

other hand, the Policy emphasises the use of learning experiences and, for learning to be optimal in a single learning experience or task, a condition regarding qualitative feedback is necessary. The qualitative feedback to students should be specific to the student and to the experience or task. In addition, the students should be given the opportunity to use the feedback to revise their thinking within the experience or as they are working on the task (Bransfor *et al*, 1999). It is doubtful whether general items centrally created by the Government to test competency can give such person-specific feedback at such timely moments within specific tasks. There is a need to evaluate rigorously the validity of the Student Assessment in relation to its formative purpose.

5-31. The Quantitative Explanation: The second quotation in Paragraph 5-26 suggests a quantitative solution to the problem of excessive tests and examinations. It is consistent with the policy mechanism for the *new proposal for student learning* of *more emphasis on Chinese, English and Mathematics* that restricts tests and examinations to the KLAs of Chinese, English and Mathematics only. It then seems that the Policy has successively increased *time* for *useful learning activities*. However, this measure has three flaws. First, if it is assumed that the Policy were really serious about this second quotation, the implications of the policy mechanism of restricting the tests and examinations to the KLAs of Chinese, English and Mathematics would be that learning activities in these

subjects be sacrificed in order to save the learning activities in other parts of the curriculum. Sacrificing the learning activities of Chinese, English and Mathematics cannot be acceptable to the EC or the public at large. So the assumption is wrong, ie the second quotation is the Policy's rhetoric. The second flaw is that the strategy of quantitatively alleviating the impact of excessive tests and examinations is not consistent with the wisdom the EC has developed from the history of the AAT. The policymakers know (Paragraph 5-28) that

> The [AAT] was designed to assess students' reasoning ability. In principle, there was no need for students to make any preparation.

The EC recognised that, although the AAT had not restricted the aptitude tests to any part of the curriculum, the curriculum could still be seriously distorted over time. From this recognition, it cannot be argued that restricting the tests and examinations to the KLAs of Chinese, English and Mathematics is likely to avoid the whole curriculum from being distorted over time. These two flaws show that a quantitative alleviation of the impact of excessive tests and examination does not work. There is still a third flaw: demoralising certain people and thus undercutting social equity.

5-32. Demoralising People with Other Abilities: The quantitative restriction of tests and examinations to the KLAs of Chinese, English and Mathematics creates a situation at odds not only with the Joy and the Commitment criteria but also with social equality. To understand this

situation, it is first noted that having a hope is a motivation (eg Goleman, 1994/1995, p. 88-89) and this motivation is not only endogenous but also often strong and long-lasting to the extent of becoming a commitment. For individuals with disabilities, especially disabilities in language and mathematics, the following examples create hope: Leonardo da Vinci suffered from learning disability; Winston Churchill from communicative disorder; Van Gogh from emotionally disturbed/behavioural disorder; Mohammed from physical handicap; Beethoven from hearing impairment; Kepler from sight impairment. These examples might be extreme cases but the message is optimistic that individuals with disabilities, especially disabilities in language and mathematics, can still be high-achieving in some other abilities. The Policy emphasises all-round development and balanced education for all students. Notwithstanding this emphasis, if the status of assessments in languages and mathematics were raised to such a prominent and pervasive position that it would bar students who have failed Chinese, or English or Mathematics from studying beyond basic education (p. 91), the Policy would erect a lifelong barrier that would demoralise those students with skills mainly in other areas. It would diminish their hope of success by reducing opportunities for them to develop their strengths. This would undermine attempts to set a new direction for teachers, parents, and students in special schools and schools with a high proportion of traditionally weak students. The *new proposal*

for student learning of *generic skills* aims also at providing balanced education. Yet, the pervasiveness of assessments in Chinese, English and Mathematics could narrow the meaning of *generic skills* in the Policy – *language, communication, numeracy, and information technology skills as well as abilities for teamwork* (p. 88) – to mainly generic linguistic and mathematical skills. It is doubtful whether the list of generic skills covers other important abilities of many cultures, for example, Gardner's musical, spatial, bodily-kinaesthetic, intrapersonal, and naturalistic intelligences.

5-33. Undercutting Social Equity: The Policy portrays a traditional education system that has undercut social equity:

> in the traditional system of education, the success of a few outstanding students is built upon the failure of the majority of students. In Hong Kong, the education system has brought frustration and a sense of failure to a lot of youngsters, and does not provide sufficient channels for them to find their own career. Such a competitive mechanism can only produce a small number of distinguished talents and will not give Hong Kong a competitive edge. It has undercut social equity and has divided our society. (p. 39).

But, the existing *few outstanding students* are already those with good linguistic and mathematical abilities. By increasing the discrepancy between the status of linguistic and mathematical abilities on the one hand and other abilities on the other, the envisioned education system could not *provide sufficient channel* for people with the other abilities *to find their own careers* with reasonably high status. The variety and hence *the number of distinguished talents* would be likely to decrease! The *new*

proposal for student learning of *more emphasis on Chinese, English and Mathematics* has further, if not equally, *undercut social equity and . . . divided our society*. Social equity is certainly a significant factor in reducing marginalisation of students with other abilities and thus extending joy in learning.

Evaluating the New Proposal for Student Learning of Key Learning Areas (KLAs) with Integrated Subjects

5-34. Main Concern: Balanced Education: From Chapter Four, it can be seen that the proposal of KLA partitions the school curriculum and its purpose in the Policy is to control the balance between the domains of knowledge studied by each student. It requires students to choose at least one subject that is not one's strength in order to satisfy a balanced-curriculum requirement. It is, therefore, clear that the main aim of this proposal of KLA is not directly about the Priority.

5-35. Not Based on Social and Psychological Considerations: An integrated subject is a product of structural curriculum integration, which is based on logical and epistemological considerations and not on social or psychological principles (Ingram, 1979). There is no obvious relation between this combination of KLA with integrated subjects on the one hand and the development of students' inner psychological qualities like joy of

learning, or effectiveness in communication, or creativity, or sense of commitment on the other hand. The Policy has not attempted to point out any such relation.

5-36. No Mention of Familiar Cases: There are familiar cases at issue relevant to the Priority, for example:

- Some students, disproportionately girls, see mathematics and science as *masculine* (Millar, 1989) and have not enjoyed studying science since primary education.
- At the same time, some students, usually boys, enjoy *masculine* science and computer-related studies and may become extremely skilled in information technology. They may be less likely to enjoy studying the languages and humanities subjects.

The Policy does not discuss familiar cases like the ones above, strengthening the view that the Policy also does not think that the *new proposal for student learning* of *KLA with integrated subjects* is significantly relevant to the Joy criterion.

5-37. The Latent Meaning: It was also found in Chapter Four that a latent meaning of the proposal of *KLA with integrated subjects* is that it implicitly requires the school to organise itself in terms of KLA departments. The extent to which this would be relevant to the Priority criteria will be better understood by Chapter Eight, which examines the tacit knowledge involved in professional activities in a school re-structuring effort.

Evaluating the New Proposal for Student Learning of Generic Skills

5-38. In Chapter Four, it was found that (1) the purpose of the *new proposal for student learning* of *generic skills* was to produce flexible employable knowledge workers, and (2) generic skills were perceived as market products of senior secondary and first-degree higher education. Nothing in these two meanings suggests that this *new proposal for student learning* concerns the Priority criteria.

5-39. Making No Effort to Link to the Joy Criterion: To confirm that this *new proposal for student learning* of *generic skills* is not directed at the Priority, this paragraph will show that the Policy does not attempt to make this *new proposal for student learning* contribute to the Joy criterion, nor to the Effectiveness in Communication criterion, although it would be easy to do so. It has been noted that the Policy is not much concerned about the substance of the generic skills, ie the nature of skills themselves (Paragraph 4-19). However, it is exactly this substance that is closely related to the kind of learning that satisfies the Priority criteria. The substance of the first list of the generic skills is *language, communication, numeracy and information technology skills as well as ability for teamwork*. Instead of perceiving this list as a market product of education, the substance of the

list can be viewed from the perspective of knowledge construction. The elements in the list can be refined, extended, and re-structured to form strategies for knowledge construction. For example, a student working on a teacher-designed learning task may have to collect information. The teacher could give a clear early indication to the student that during the process of the task, the teacher would see whether the student had carried out any information collection; if yes, whether the information was relevant; if yes, whether the information had come from a single or multiple sources; if the latter, whether information from different sources had been compared to check discrepancies. That is, the list can be used to encourage independent learning in students and for the teacher to give feedback. Self-determination and positive feedback regarding competence and efficacy are both intrinsically motivating (Pintrich and Schunk, 1996, p. 272). In this way, feedback can be used to guide a student to complete a challenging task. Challenge and feedback are elements of intrinsic motivation in a learning task (Csikszentmihalyi, 1990).

5-40. Making No Effort to Link to the Effectiveness in Communication Criterion: The steps in the paragraph above are progressively more rigorous in managing information for understanding reality and this helps to develop the students' commitment to truth and his/her related skills – a factor in effectiveness in communication. Also, *ability for teamwork* in the first list (p. 88-89) could include moral values that facilitate within-team

trust, namely honesty and truthfulness. These moral values are personal *inner qualities* (p. 38) for effectiveness in communication but the Policy makes no attempt to point this out. This confirms that the policymakers are not so much concerned about the Priority but rather about something else – probably flexibility, versatility, and employability of workers.

Evaluating the New Proposal for Student Learning of Five Types of Essential Learning Experiences

5-41. Chapter Four argued that the Policy merely emphasises (1) the work-relatedness and (2) the diversity and balance of learning experiences. To implement this *new proposal for student learning*, the Policy sets up the term *five types of essential learning experiences* as a symbol, gives information and might sponsor some research and development. The status of this *new proposal for student learning* was considered medium low (Paragraph 4-15 and 4-29).

5-42. Work-Relatedness: The concept of work-related experiences, eg *visitations and workplace attachments* (p. 145), is intended to *help* [students] *explore their own aptitudes and abilities and to prepare them for future employment* (p. 19). Of the 7 appearances of the keyword *work-related experiences* none mentions how work-relatedness is directed at the

Priority. Other than the intention mentioned above, the Policy does not mention how the advocated work-related experiences can be systemically arranged within school life. In addition, the existing situation in Hong Kong is that school or university graduates do not stay in one job for very long and many are already spending their early years after graduation in different workplaces. They currently have many opportunities to explore their own aptitudes and abilities. Unless the Policy can explain why the advocated work-related learning experiences in the school years can be systemically superior to the existing situation mentioned above in terms of overall self development, it would not be convincing to say that this part of the *new proposal for student learning* of *essential learning experiences* is directly relevant to the Priority criteria.

5-43. Diversity and Balance: It is likely that the combination of these two factors is directed against the monotony in traditional school life (p. 4, 29). However, there are counter-arguments against the opinion that diversity and balance of learning experiences have any important priority in the education reform. First, the traditional concept of *wu yu* [five kinds of education] already exists and probably no local educators would object to the principles of diversity and balance associated with this concept. Yet, traditional school life is still monotonous as described in the Policy. Unless the Policy proposes how to arrange learning experiences *per se* in ways not practiced in the past, the argument that this *new proposal for*

student learning is relevant to the stated Priority is unfounded. Secondly, diversity of learning experiences can easily be excessive because activities are often arranged for students with no coordination between teachers nor between parents and teachers. Four to eight unrelated projects in the Christmas or Easter vacation, or after-school schedules of private tuition, piano lessons, tennis or ballet sessions, in addition to twelve to fifteen subjects in the school time-table are not uncommon in Hong Kong. Schools are unique and the Policy's *monotonous school life* might have stereotyped too many of them. Attentiveness to challenging tasks is necessary to create joy and satisfaction (Csikszentmihalyi and Csikszentmihalyi, 1988) but excessively divided attention leads to lack of attentiveness.

5-44. Learning Experiences: An Example of a School: An illustrative case was a school the Author personally visited about ten years ago. According to teachers in the school, students there were very active, participating in various types of extra-curricular activities, but the overall climate of studying was mediocre and students did not seem to enjoy learning in the curriculum. That is, school life as a whole was not monotonous and the students were learning, but not the formal codified knowledge listed in the curriculum, which was supposed to take up most of students' time. Teachers knew that students were learning well from the extra-curricular activities. The teachers also knew that the curricular

activities and the extra-curricular activities were quite different in nature, but the essence inherent in extra-curricular experiences could not be applied to the formal curriculum. The Policy has not revealed this essence either although it continually uses the term *learning experiences*. This case illustrates the two reasons argued in Paragraphs 4-7 and 4-8, namely that people are not easily convinced that formal curricular knowledge can be learnt from real-life experience or can be learnt without painstaking effort. The teachers saw that the extra-curricular experiences were enriching but could not conceptually and practically reconcile them with curricular experiences.

5-45. Only a Quantitative Approach: The status of *five types of essential learning experiences* was found to be medium low or low. Putting all things together, including the arguments in Chapter Four, by calling for diversity and balance in the totality of learning experiences, the Policy has directed this *new proposal for student learning* against monotony in the traditional school. But, the Policy might have stereotyped too many schools as lacking the envisaged sort of learning experiences. In addition, not all learning experiences are enriching and enjoyable; far too many cause either boredom or anxiety to students. Merely increasing the amount and improving the balance of learning experiences is missing the crux of the issue – the qualitative features of the theory and practice that can make a learning experience enriching in terms of the Priority. Both the Policy

and the CDC curriculum policy, especially the latter, might have sensed the importance of the concept of experiences as a learning process, as judged from the repetitive use of the term, but fail to clarify the critical qualitative elements of the process essential for making a difference relevant to the Priority.

Evaluating the New Proposal for Student Learning of Integrated Learning

5-46. The Technical Purpose of *Integrated Learning*: As revealed in Paragraph 4-16, the Policy proposes a technical purpose and an educational aim for integrated learning in and outside the classroom. The technical purpose is to create the five types of essential learning experiences (p. 58). The technique of creating an essential learning experience is necessarily concerned mainly with the quality – and not the quantity – of the essential learning experience. The quality of an essential learning experience has been seen to be *prima facie* relevant to the Priority (Paragraph 4-15) but conceptually inadequate. Hence, this technical purpose is *prima facie* relevant qualitatively to the Priority but still conceptually inadequate.

5-47. The Educational Aim of *Integrated Learning*: The educational aim of *integrated learning* is to enable students to apply knowledge of

different domains to analyse issues and tackle problems we encounter in daily life and in the workplace (p. 61). The quotation (Paragraph 4-16) also states that *schools should* do this (p. 61). There are a number of reasons, *prima facie* at this stage, why curricular experiences designed by individual schools that are guided by the above educational aim of *integrated learning* could contribute to the Priority, provided certain conditions are satisfied. The first reason is that such curricular experiences could help students to focus attention. Traditionally, passing tests and examinations is often regarded as the main purpose for studying and for many students this purpose is too general and distant to serve as an immediate focus of attention. Attentiveness is important for sustaining effort to tackle complex problems/issues and only suitably complex problems, if satisfactorily solved, can offer the satisfaction and the joy of learning. Secondly, the focus is authentic to real life and is therefore of immediate meaningfulness and/or future significance, both of which are necessary in developing a sense of commitment. Test and examination questions are often too contrived. Thirdly, by applying formal codified knowledge in different domains to real-life or workplace issues/problems, students can connect formal knowledge and informal tacit knowledge. This suggests a way to learn formal knowledge through experiencing it. Fourthly, a suitable open-ended problem of real-life complexity invites creative solutions, without the need to guess the teacher's hidden answer.

Fifthly, honesty, truthfulness, commitment to truth, and openness of mind, considered as *inner qualities* (p. 38) needed for effective communication (Paragraphs 5-19 to 5-22), are values to be developed in context through moral education. Moral education, as envisaged in the Policy, is best done through learning experiences:

> In providing learning experiences in moral and civic education, the provision of diversified life experiences is more effective than sermonizing. (p. II-1).

It should be pointed out that the first and the third reasons above are related to narrowing people's conceptual gaps (1) between the codified knowledge in the school syllabus and the tacit knowledge learnt in real-life experiences, and (2) between joy and effectiveness in learning.

5-48. Lack of Corresponding Policy Mechanism: The reasons above are only based on potentialities rather than actual arguments raised by the Policy. These potentialities have yet to be supplemented by other conditions in order to satisfy the Priority criteria. The single paragraph containing the educational aims of *integrated learning* in the Policy document (p. 61) is far from being conspicuous, or clear, or convincing for other educators to follow up, unless they re-invent the idea themselves. This parallels what was found in Chapter Four that the status of *integrated learning* was the lowest among all the *new proposals for student learning* as there was next to no policy mechanism for its implementation. From a practical point of view, even if *integrated learning* has the potentiality to

actualise the Priority, the Policy has given it no place in the forthcoming implementation, except for criticising schools if they do not make use of the concept of *integrated learning* to create five types of essential learning experiences.

Conclusion of Chapters Four and Five

5-49. The findings of this chapter are summarised in the table on the next few pages. The status of each *new proposal for student learning* is also juxtaposed for comparison.

(P.T.O.)

New Proposals for Student Learning and Status	Extent of Relevance to the Priority Criteria	Real motives / Explicit Concern of the Policymakers
More Emphasis on Chinese and English. ➢ Highest status	➢ Relevant to communication. ➢ Relevant to concerns of syntactics and semantics. ➢ Limited to tests and examinations. ➢ Irrelevant to the concerns of pragmatics, ie effects on the receiver of the communication. ➢ Irrelevant to the overall development of the self, in particular honesty, truthfulness, commitment to truth.	Real motive: ➢ To ensure adequate supply of manpower with language abilities. ➢ To continue working on the ECR6.
More Emphasis on Mathe-matics ➢ Very high status		➢ No information.
KLA with Integrated Subjects. ➢ High status from junior primary to senior secondary	➢ KLA: Irrelevant to the Priority criteria. ➢ Subject integration: logical and epistemological but not psychological or sociological. Hence, irrelevance to the Priority criteria.	Explicit Concern: ➢ To provide balance between domains of knowledge in the curriculum.

Generic Skills. ➢ High status in senior secondary education. ➢ Low status in basic education.	➢ Considered as market products of senior secondary and first-degree higher education. Hence irrelevant to the Priority criteria.	Real motive: ➢ To produce flexible, versatile, and employable knowledge workers
	➢ The substance of the generic skills could be modified to become abilities for knowledge construction and thus formative assessment standards for giving feedback to students in a way relevant to the Joy and the Effectiveness in Communication criteria. The Policy, however, is neither interested in the substance of the generic skills nor aware of the above possibilities.	➢ No relevant information for basic education.
Five Types of Essential Learning Experiences ➢ Medium low or low.	➢ The emphasis is diversity and balance of the totality of learning experiences. This is directed against *monotonous school life* and is thus relevant to the Joy criterion, but only in a quantitative manner. Diversity could easily be excessive in schools in Hong Kong. ➢ The concept of *essential learning experiences* is potentially relevant to the Priority criteria. See the entry on *Integrated Learning* below. ➢ The Policy fails to reconcile the conceptual gaps (1) between the codified knowledge in the school syllabus and the tacit knowledge learnt through experiences and (2) between joy and effectiveness in learning.	Explicit Concerns: ➢ To help students explore their own aptitudes and abilities and to prepare them for future employment. ➢ To deal with monotonous school life.

Integrated Learning. ➢ Lowest	➢ The aim of *integrated learning* carries high potentialities to be relevant to the Priority criteria. ➢ The Policy does not provide much description of it. ➢ *Integrated learning* is the pathway to create essential learning experiences. This makes *essential learning experiences* potentially relevant to the Priority criteria.	Explicit Concern: ➢ To move away from compartmen-talized subjects.

5-50. By comparing the status of each *new proposal for student learning*, its relevance to the Priority criteria, and the real motives of policymakers, it can be observed that there are two trends.

i. The *new proposals for student learning* with higher-status policy mechanisms are associated with the policymakers' real motive to improve the flexibility, versatility, and employability of the manpower supply of knowledge workers but are less relevant to the stated Priority.

ii. The *new proposals for student learning* with lower-status policy mechanisms are more relevant to the stated Priority but the relevance is only potential rather than manifest; this is not only because the policy mechanisms are weak or absent but also because conceptual clarity is poor.

5-51. It is quite disappointing that the policymakers' *new proposals for student learning* are not means to actualise the stated Priority. Only *integrated learning* with the lowest status among all the *new proposals for student learning*, and indirectly the proposal of *five types of essential learning experiences* with low or medium low status, have the potential to achieve the stated Priority. If what the public wants – as reflected by the explicit Priority – is to be respected as important to lifelong learning, then it is necessary for Hong Kong to set new research agenda for informing how these potentialities can become realities. This dissertation hopes to contribute to this process. First, though, it is necessary to evaluate how the Policy expects schools to actualise the Priority, eg by carrying out *integrated learning*.

Chapter Six:

School Educators' Professional Knowledge Expected in the Policy

Introduction

6-1. Chapter Five argued that hardly any of the *new proposals for student learning* are directly relevant to the stated Priority (Paragraph 5-51). *Integrated learning* is the only *new proposal for student learning* that has the potentiality for actualising the Priority, which is what the public claims to want. The policy mechanism for *integrated learning*, however, was nearly non-existent (Paragraph 5-49). The only hint found for actualising the Priority was the sentence:

> *Schools should* help students develop abilities and skills for analysing issues from different angles and applying knowledge of different domains through integrated learning. (p. 61). (Author's italics).

"*Schools should . . .*" suggested that the task of actualising the Priority is to be delegated to school educators. It was also found that the technical purpose of *integrated learning* was to create essential learning experiences (Paragraph 5-46) and the main policy mechanism for *five types of essential learning experiences* was information giving (Paragraph 4-10). These

findings together suggested that the policymakers could be relying heavily on school educators to actualize the Priority by creating integrated learning experiences.

6-2. Chapter Six: A sentence starting "*Schools should . . . .*" is not a sufficient basis for further action. Hence, this chapter will first attempt to confirm the heavy reliance on school educators. This will be done by searching the Policy document for what professional knowledge the policymakers expect school educators to possess in order to actualise the stated Priority (Paragraph 6-4). If the policymakers do not expect much of this professional knowledge, then it is justified to say that the Policy is utterly rhetorical about its own priority.

6-3. Subsequent Chapters: If, on the other hand, much professional knowledge is indeed expected to be possessed by school educators for actualising the Priority, the dissertation will proceed to find out whether the school educators actually largely possess the expected knowledge (Paragraph 6-5). If the result is affirmative, it means that the policymakers have already completed their relevant planning. But then, the terms *reform* and *paradigm shift* in the Policy would be huge exaggerations. If the result is negative, the dissertation will proceed to find out from the Policy the plan for professional development (Paragraph 7-2). The plan will then be examined for its consistency with the expected professional knowledge of

the school educators for actualising the Priority (Chapters 7 and 8), thus completing the last main task of the dissertation.

School Educators' Expected Knowledge

6-4. Keyword Search: What professional knowledge, codified or tacit, does the Policy expect school educators – called *frontline educators* by the Policy – to possess in order to carry out the education reform? Sentences/paragraphs in the Policy document containing the keywords *teach*, *school, frontline, educator, principal*, and their derivatives were selected for their relevance to expected expertise and responsibilities. The principal and/or teachers at the middle management level have to take up the expected responsibilities according to the principle of *school-based management* (Item O below). Analysis of the relevant sentences/paragraphs reveals that the school educator is explicitly expected to possess the knowledge for carrying the following in future:

A. Developing the student's abilities and skills for analysing issues from different angles and applying knowledge of different domains through project learning and integrated learning (p. 59, 61, II-2);

B. Integrating all-round learning activities both inside and outside the classroom (p. 9);

C. Integrating various subjects to enable students to have a more coherent and integrated learning experience (p. 59);

D. Providing students with five types of essential learning experiences: moral and civic education, social service, intellectual development, physical development, aesthetic development as well as work-related experiences (p. 60);

E. Understanding the preceding/ensuing stage of education in terms of the curriculum, the pedagogy and child psychology (for the early childhood educator) (p. 14);

F. Understanding the student's learning progress, needs and problems (p. 10, 16, 36, 46);

G. Caring and catering for secondary students' diverse abilities and learning needs (p. 12, 76, V-3);

H. Teaching without discrimination (p. 36);

I. Taking part in *Teacher Assessment Schemes*, ie assessing those abilities that are not easily assessed through written tests in public examinations (for example, the ability to organize, communicate and work with others) (p. 11, 20, 44, 104);

J. Organising project learning and assessing students' progress and overall performance through projects (p. II-3);

K. Using information technology to enable the student to seek information and to understand certain abstract concepts in a lively and interactive manner (p. 67, II-3);

L. Enhancing students' generic abilities (p. 60);

M. Inspiring students to construct knowledge rather than to transmit knowledge (p. 149);

N. Developing a new culture of, or to realize a paradigm shift in, learning and teaching (p. 15, 40);

O. Developing a school-based curriculum rather than to implement the *given* curriculum (p. 149); and

P. Leading and contributing to the reform rather than to execute externally dictated policies (p. 149).

6-5. An Ambitious List: By comparing this list with another taken from Morris *et al* (1996), who evaluated the implementation of the large-scale Target Oriented Curriculum initiative in 1995, it is found that not only is the former list very long but also the nature of the expertise and responsibility required is qualitatively very different from traditional expertise. Juxtaposing a few examples from the latter list might illustrate the discrepancy:

- Group work and individual work was comparatively rare. . . . Teacher-pupil interaction was thus far more prevalent than pupil-pupil interaction.
- The use of strategies which recognized that pupils might learn in different ways or attain at different rates and levels (e.g. differentiated tasks) was rarely evident.
- Generally tasks [as defined by the Target Oriented Curriculum] were not strongly contextualized . . . .
- In practice it was especially difficult to distinguish . . . [problem solving, reasoning, and inquiring]
- Teachers showed a limited understanding of the nature and purpose of formative and criterion-referenced assessment. (Morris *et al*, 1996, p. 243).

The large discrepancy shows that it is unlikely that school educators have largely possessed the expected professional knowledge in the former list. They have to learn or construct this knowledge.

6-6. The Next Step: The next step (Paragraphs 6-7 to 6-31) is to evaluate whether or not this expected professional knowledge is indeed relevant, directly or indirectly, to the Priority. If the professional knowledge is relevant, it confirms that there are expectations in the Policy that schools are to take up the responsibility for actualising the Priority. The following paragraphs will evaluate each of the items above from A to P for relevance to the Priority. In addition to the kind of direct relevance in Chapter Five, indirect relevance of the expected professional knowledge has to be included here. This is because *integrated learning* has been found to be directly relevant, but only potentially. The potential relevance will not become real unless other conditions contribute to make *integrated learning* really relevant. These other conditions are hereafter referred to as indirectly relevant.

Relevance of School Educators' Expected Knowledge to the Priority Criteria

Items A, B and C: Developing Students' abilities for Analysing Issues, Integrating Activities, Integrating Subjects:

6-7. These items were found out to be potentially relevant to the Priority criteria in Chapter Five. However, these items cannot be used to confirm themselves.

Item D: Providing Essential Learning Experiences:

6-8. Essential learning experiences are to be created by *integrated learning* (p. 58) and *integrated learning* was found to be potentially relevant to the Priority criteria. So this item is potentially relevant to the Priority criteria. However, again this item cannot be used to confirm itself.

Item E: Understanding the Preceding/Ensuing Stage of Education:

6-9. Direct and Indirect Relevance: The Policy recommends that teacher training organisations should enable teachers to have this item of knowledge (p. 14). There is no further elaboration in the Policy. Better understanding of the preceding/ensuing stage of education in terms of child development is directly required for continuity of overall self development of students. For example, school life in the lower primary years in Hong Kong is much stricter than school life in kindergarten years. Lower

primary children are often puzzled why they have to change their thinking and behaviours. They gradually learn to follow routines without reflection and try to guess teachers' answers instead of being guided by their own sense of truth. This kind of learning cannot satisfy the Joy, Creativity, and Effectiveness in Communication criteria. The gradual loss of meaning in learning is also inconsistent with the Commitment criterion, which requires children to spend time and energy on what they think is worthwhile. In addition, better understanding of the curriculum and the pedagogy of the preceding/ensuing stage of education also makes learning experiences more meaningful to students.

Item F: Understanding Students' Progress, Needs and Problems:

6-10. Direct Stated Relevance of Aim: The aim of improving understanding of students' progress, needs and problems can be seen from the following quotation from the Policy:

> It should be used as a reference for planning the curriculum, designing teaching methods and giving guidance to individual students to enhance the effectiveness of learning and teaching. (10).

This quotation is directly about guidance to individual students and should be *prima facie* relevant to the overall self development of students. The Policy also proposes to set up a tool to help school educators to understand students' progress, needs, and problems, namely the BCAs (p. 10, 16, 46).

6-11. No Direct Relevance of Strategy: Careful examination shows that the Student Assessment of the BCAs (p. 10, 16, 46) is more or less the only means suggested by the Policy to achieve the aim above. In addition to the two flaws found in Paragraphs 5-29 and 5-30, the BCAs assess only competency related to school subject content in the KLAs of Chinese, English and Mathematics. The BCAs are not much different from ordinary tests and examinations organized by individual schools except that it is likely that the former is guided by experts, set centrally by experienced teachers, and is therefore more valid in terms of the contents of the three school subjects. The Student Assessment of the BCAs can probably reveal linguistic and mathematical strengths and weaknesses of individual students but this scope is far from sufficient for understanding a wider spectrum of students' *inner qualities* (p. 38). It seems that the Policy is using the aim above as a means to justify the BCAs rather than using the BCAs as a means to achieve the aim. For, if the Policy genuinely valued the aim above, there should be other accompanying strategies, for example researching students' preconceptions (alternatively known as *misconceptions*, or *alternative frameworks*, or *children's frameworks*, or *cognitive structures* (eg Driver, 1983; Driver, Guesne, and Tiberghien, 1985)), identifying students' current personal issues at different stages of maturity, increasing teacher-student interaction, and encouraging teachers teaching the same students to share knowledge about their students. Yet,

the Policy's expectations on teachers are so demanding that, in order to honour the expectations, school educators would have to reduce their other activities, including non-formal interactions with students. This would, in turn, undermine understanding of their students' progress, needs and problems. Secondly, teachers teaching the same students traditionally hold very few, if any, meetings to discuss the progress, needs, and problems of the students they have in common – a sociological phenomenon closely associated with the curricular problem of vertical fragmentation between school subjects, especially in local secondary schools (Education Commission, 1990; Morris and Chan, 1997; Johns and Dimmock, 1999). This vertical partitioning has discouraged teachers who teach the same cohort of students from socially constructing tacit knowledge about their common students. The reactionary sociological property of the vertically fragmented curriculum has been confirmed elsewhere, for example by Hargreaves (1994) and Hannay *et al* (2001). The Policy fails to query this vertical partitioning of teachers and continues to propose another kind of vertical partitioning by KLAs. This confirms that the aim above is probably the means to justify the BCAs rather than the other way round. The BCAs, in turn, are an early measure of quality assurance of the linguistic competence of the labour force.

6-12. Indirect Relevance: The discussion in the last paragraph shows that there are still many other strategies to achieve the stated aim of this

item. Perceived from this perspective, this item is indirectly relevant to the Priority. For example, knowing students' preconceptions helps teachers to make integrated learning experiences more meaningful to individual students and meaningfulness in learning is a prerequisite for student commitment. Knowing student profiles in *multiple intelligences* (Gardner, 1993) enables teachers to create *multiple intelligences* tasks and personalize feedback to individual students, thus satisfying the Joy criterion. Understanding students' moral issues will help teachers to design games and dilemmas in moral education that require creative solutions, thus contributing to the Effectiveness in Communication criterion and the Creativity criterion. In general, this item should equip teachers with the knowledge likely to enhance Items G and H.

Items G and H: Catering for Student Diversity and Teaching Without Discrimination:

6-13. No Stated Direct Relevance of Purpose: The policymakers abolished the Academic Aptitude Test in July 2000, which in the past provided *a tool for scaling schools' internal assessment results for the purpose of allocating S1 places* (p. 76). The number of P6 student academic aptitude bands used for allocating S1 places (p. 78) was simultaneously reduced from five to three (p. 17), thus widening within-school student academic abilities in secondary schools. The Policy further

states, "The allocation bands will be eliminated gradually to remove the labelling effect on schools and pupils (p. 74)." The promotion of integrated education in Hong Kong (p. V-3) has added another kind of diversity to within-school student populations. In associations with student diversity, the Policy proposes the following:

> . . . secondary school teachers will need to equip themselves with the knowledge and skills required for catering for students of diverse abilities and secondary schools will also need to implement appropriate measures (such as curriculum adaptation and collaborative teaching) to facilitate effective learning of students. To phase out allocation bands, it is necessary to implement effective "remedial" measures for students in primary schools and help secondary school teachers enhance their abilities to cater for students of mixed abilities. (p. 76).
>
> "Teaching without any discrimination" has been a cherished concept since ancient times. We should not give up on any single student . . . (p. 36)

The first quotation shows that the purpose of expecting this teacher ability is not directly about the Priority, but about solving an impending problem. When the EC decided to abolish the AAT so as to solve the long-term existing problem of distortion of the primary curriculum and adverse effects of labelling students with their abilities in learning, the policymakers simultaneously knew that they were creating another problem for school educators about how to teach classes of mixed abilities. Similarly, the second quotation aimed at calming school educators by appealing to their sense of justice.

6-14. A More Thorough Examination of Item G and H: A Negative Aspect: The task of handling student diversity has become more

challenging for teachers, challenging in three paradoxical senses. The first sense can be illustrated by a real case. The Author visited a Catholic technical secondary school in the early 1990s, which had a very large proportion of academically less able students at that time. According to the staff, the religion helped the school to maintain its devotion to help all students without discrimination but the general majority of the teachers had insufficient experience in handling these students although they were not new to the profession. Neither the central curriculum of Hong Kong nor the general teaching methods in the school could fit these students. The teaching methods had once been effective since the school was established at an earlier time when industry prospered in Hong Kong and technical schools were popular and generally admitted academically capable students. As industry gradually moved northward into Mainland China, where labour was relatively much cheaper, the popularity of technical schools in Hong Kong fell and they correspondingly admitted more and more academically less able students. But, it was not easy for traditional schools to catch up with the change in students' academic ability. So the first sense of being challenging is negative and refers to the phenomenon that change and diversity are undesirable, yet inescapable, and individual school educators have limitations. The first quotation above, containing terms like *cater for* and *remedial*, shows this negative assumption of the developers of the Policy.

6-15. Fundamental Indirect Relevance: A Positive Aspect of Item G and H: The second sense of being challenging is positive and enterprising. It comes from the phenomenon that diversity is an indispensable ingredient for knowledge creation and theoretically should therefore be welcomed in organisations constructing knowledge, like schools. The indispensability of diversity for knowledge creation has been well documented in industry. For example, Ceramics Process Systems Corporation made use of complementary expertise within *a scientific team of individuals from very different backgrounds* to invent compounds of very remarkable properties. Multimedia at Microsoft deliberately employed two extreme groups of people of very different cognitive styles to build an environment of *creative abrasion* – one logical group *who [tended] to resolve issues almost before they [thought] about them* and the other creative group *who [tended] to imagine alternatives faster than they [resolved] them* (Leonard, 1995, p. 66, 70-71). Similarly in education, regarding *integrated learning*, the Author once taught a sixth-form Liberal Studies course to combined groups of students from science and arts classes. They studied social issues in science and technology together and, at the end of the course, commented that the opinions and perceptions of students of the other class had much widened their own perspectives and enriched their own personal points of view (Wong, 1988). Since the Policy views learning as knowledge construction and advocates the use of daily issues, project

learning, and collaborative learning, diversity should be welcome. A corollary is that knowledge construction should not be done individually. This corollary is consistent with the finding that companionship is a factor for optimising the psychological quality of an experience (Csikszentmihalyi, 1990). Items G and H are certainly relevant to using *integrated learning* to design essential learning experiences in ways consistent with the Priority.

6-16. The Real Challenge: The above argument that knowledge is best created socially in a team leads to the third sense of being challenging. It is no longer a promising strategy, if not a hopeless strategy, for individuals or similar individuals to attempt a paradigm shift, which requires creation of new knowledge. The real challenge is how school educators can transcend their individual limitations by capitalising on their own diversity to construct professional knowledge collectively. Based on this collective experience, they have to facilitate students to make use of their own diversity to construct knowledge socially. Relevant concepts like communicative competence for reaching consensus (for sharing knowledge) (Habermas, 1998), and relevant praxes like cooperative learning, or designing and assessing student tasks that give opportunities for students of diverse abilities to learn in his/her own optimal ways and contribute to group construction of knowledge, are not readily learnt by school educators, as evidenced from the above findings of Morris *et al* (1996). The real

challenge is beyond teachers' ability to read about the necessary concepts and teaching methods. The real challenge is that this ability to capitalise on diversity is a team ability that is constituted of much tacit knowledge in the form of know-how, knowledge about colleagues, trust and patience between team members, and knowledge about students, in addition to book knowledge. The tacit knowledge cannot be built merely by traditional top-down transfer of codified professional knowledge but has to be experientially constructed in parallel by and within the team in order that members can appreciate the full import in terms of joyful, meaningful, communicative and creative learning and to use it practically and creatively with student groups. The technical school above (Paragraph 6-14), for example, raised its expectation, after re-structuring lower secondary education by creating interdisciplinary teacher teams for each student cohort and using these teams to apply an integrated form of activity approach and functional curriculum integration on trial. To summarise, it can be appreciated that a form of team learning for capitalising on diversity is of fundamental importance for the Policy and very relevant to the Priority, but the challenge should not be overlooked. Even the Policy itself is conceptually impoverished in terms of the social aspect of knowledge construction (Paragraphs 3-6 and 3-7).

Item I: Taking Part in "Teacher Assessment Schemes":

6-17. No Direct Relevance: The first observation is that this item aims not specifically at the Priority but at internal summative assessment. Reporting on certain student abilities not easily assessed through written tests has always been one of teachers' traditional jobs. The Policy proposes to incorporate this kind of assessment, including the assessment of creativity (p. 44) into the public examination system for certification and selection purposes (p. 11, 44, 104). This means that this kind of assessment has to be carried out in a more standardized and controlled manner across all schools. The Policy would consequently add to the adverse psychological effects of public examinations by infiltrating everyday classroom learning. This is not likely to improve assessment for the purpose of enhancing the joy of learning.

Item J: Organising Project Learning and Carrying out the Related Assessment:

6-18. Direct Potential Relevance: Project learning is a key task of the curriculum reform (p. 67, II-2). The following quotations indicate that project learning focuses on the student and is a form of *integrated learning*.

> We therefore encourage schools to make use of project learning to nurture students' various abilities, knowledge and attitudes. (p. II-3).

> Through project learning, students can get to the crux of a problem, apply their knowledge of different domains and view it from different perspectives. (p. II-2).

The explicit purpose and the clear link to *integrated learning* show that project learning similarly carries high potentialities for being relevant to the Priority criteria.

6-19. Indirect Relevance of the Alternative Assessment Related to Project Learning: Alternative assessment need not be used for summative purposes as in the case of *Teacher Assessment Schemes* (Paragraph 6-17). Paragraphs 5-38 and 5-39 have already illustrated ways of carrying out alternative assessment that would satisfy the Joy criterion and the Effectiveness in Communication criterion. There is much more in using alternative assessments of projects that can satisfy the Priority criteria. Alternative assessment for projects need not be elaborate in order to satisfy the Priority criteria. Teachers skilled in doing this can base their observations on half-finished work in student projects, giving clear feedback in a way that focuses student attention, alters the level of challenge to individual students, and advises student to tailor their works to their own personal meanings. Alternative assessment is very powerful in making *integrated learning* and project learning suitable for achieving the Priority. The Policy, however, fails to point out these possibilities and so their suitability remains potential.

6-20. Caveats: However, there are three potential barriers for this item to satisfy the Priority criteria. The first barrier is that the vertical fragmentation between school subjects or between KLAs could limit the extent to which the focus of assessment can transcend subject/KLA boundaries, for example, neglecting moral education. The second barrier can be inferred from the traditional lack of coordination between teachers of different subjects in assigning work to students. Since the beginning of the implementation of the education reform, the phenomenon that a student was assigned four or more projects in the Easter vacation has not been uncommon. Being attentive to a challenging task is a pre-requisite for intrinsic motivation to emerge (Pintrich and Schunk, 1996) and for ultimately getting satisfaction and joy (Csikszentmihalyi and Csikszentmihalyi, 1988; 1990). The third potential barrier is that the EMB or individual schools would use the results of student assessments through project learning ultimately for selection, thus turning project assessment into a controlling mechanism.

Item K: Using Information Technology to Facilitate Learning:

6-21. Stated Direct Relevance: The Policy claims that

> Teachers can . . . use IT to teach [students] certain concepts and knowledge in a more lively and interactive manner. Students will become more interested in learning and exploration, and find it easier to understand abstract concepts. (p. II-3).

The quotation shows that the intention of this item is to contribute directly to the Priority.

6-22. Indirect Relevance: The Policy also advocates *integrated learning* and project learning, both of which would be generally difficult to carry out without the convenience of access to information. This is particularly true for children with special physical needs. Thus, this item greatly enhances the potentialities of *integrated learning* and project learning to satisfy the Priority criteria.

6-23. A Caveat: However, it is a bias that the Policy mentions nothing about negative possibilities, eg that IT could also lead to children's obsession with computer games, a phenomenon not uncommon in Hong Kong. Without sufficient discursive argumentation about IT policy from the perspective of the Priority, the Policy would actualize the Priority only for some students while causing harm to others. IT ability, while being indispensable for a knowledge worker today (p. 27), is introducing a new dimension of student diversity into the education system. So Items I, J, and K should be incorporated with each other and they are relevant to the Priority criteria only if the real challenge mentioned above and the caveat mentioned in this paragraph are taken into account.

Item L: Enhancing Students' Generic Skills:

6-24. Indirect Relevance Only: Chapter Five found that the *new proposal for student learning* of *generic skills* was aimed at the flexibility of Hong Kong's labour force rather than at the Priority. Hence there is no direct relevance. Despite this finding, generic skills, when considered as knowledge-construction abilities used in *integrated learning* or project learning, have to be assessed and the arguments under Item J apply. That is, teachers can make use of the assessment of generic skills in a way that contributes positively to the Priority criteria, although the Policy fails to point it out explicitly.

Items M and N: Inspiring Students to Construct Knowledge and Realising a Paradigm Shift:

6-25. Stated Direct Relevance: The Policy states that

> . . . school heads and teachers are facing the following changes in their roles: From someone who transmits knowledge to someone who inspires students to construct knowledge. . . . (p. 149).
>
> The EC fully understands that the mindset on learning and teaching cannot be changed overnight, or through any government edict. The EC has proposed a direction for the reform, but the "paradigm shift" can only be realised with the active participation of frontline educators. (p. 40).

In a way, this ability is as general as the Policy and has to be examined similarly carefully in order to determine the extent to which it is aimed at the Priority criteria. However, the item clearly aims at shifting the focus of

education from the knowledge in the curriculum to the students themselves. The item also expects school educators to reflect critically on the psychology of learning and motivation, and to return some control of learning to the students. A teacher who has such reflective ability is likely to have his/her own vision consistent with the Priority. Item N is similar to Item M except that Item N is more about change.

Items O and P: Developing School-Based Curricula and Contributing to the Education Reform:

6-26. No Direct Relevance: The Policy states that

> School heads and teachers are facing the following changes in their roles:
>
> - . . .
> - From someone who implements the curriculum to someone who participates in the development of school-based curriculum
> - From someone who executes policies to someone who leads and contributes to the reform (p. 149).

From the quotation, these two items are not aimed directly at the Priority. They are general encouragements to school educators to be enterprising and self-reliant. They apply to all kinds of educational development.

6-27. Indirect Relevance: The following reason shows that these two items satisfy the Priority criteria indirectly through making *integrated learning* satisfy the Priority criteria. The greatest challenge of *integrated learning* is probably at the initiation stage. Any school educator who

attempts to initiate *integrated learning* will find that s/he has been offered little incentive but has to face risks of significant magnitude. Except for his/her own professional knowledge and commitment to the next generation, s/he can only justify *integrated learning* with the quotation on page 61 of the Policy document that *schools should* carry out *integrated learning*. There is no substantial policy mechanism proposed and no resource earmarked for *integrated learning*. Yet, organising *integrated learning* that is based on psychological and sociological principles usually involves many people – minimally teachers from a number of different subjects traditionally isolated from one another. The kind of student assessment suitable for *integrated learning* is not readily available and teachers need the professional skills and knowledge, codified and tacit, to create it. In assessment matters, parents are always involved and many are very sensitive, since assessment is traditionally used for selection. School educators need political skills and knowledge. It is likely that only schools that can lead and contribute to the reform and can organise school-based curriculum development have the team ability, vision and commitment to carry out *integrated learning*. Hence, these two items are indirectly indispensable for achieving the Priority.

Summary of the Relevance of the Abilities of School Educators Expected by the Policy:

6-28. The table below is a summary of the findings about the relevance to the Priority of the professional knowledge of school educators expected in the Policy.

Items	Remarks
A, B and C: Developing Students' Abilities for Analysing Issues, Integrating Activities, Integrating Subjects.	➢ These items correspond to *integrated learning*, which is directly relevant but the relevance is potential, ie dependent on other conditions. ➢ *Integrated learning* is used as the reference for evaluating the indirect reference of other items. It cannot be used logically for confirming itself.
Item D: Providing Essential Learning Experiences	➢ Essential learning experiences are created through *integrated learning*. ➢ Hence, this item also functions as the reference for evaluating the indirect reference of other items in the same way as Items A, B and C.

(To be continued on the next two pages.)

Items	Direct Relevance	Indirect Relevance	Remarks
Item E: Understanding the Preceding/Ensuing Stage of Education	➢ The item is directly relevant.	➢ The item is indirectly relevant.	
Item F: Understanding Students' Progress, Needs and Problems	➢ The stated aim is directly relevant. ➢ The strategy is restricted to the BCAs, making the relevance doubtful.	➢ The item is indirectly relevant.	➢ Relevant individual practice is hindered by vertical staff partitioning, the significance of which the Policy is apparently not aware of.
Items G and H: Catering for Student Diversity and Teaching Without Discrimination	➢ The aim is not directly relevant. ➢ If diversity is negatively perceived, there is no indirect relevance as well.	➢ If diversity is positively perceived as fundamentally important for knowledge creation, these items are indirectly relevant.	➢ The indirect relevance is dependent on the condition that these items can be established as team abilities, constituted of codified and tacit knowledge.
Item I: Taking Part in *Teacher Assessment Schemes*	➢ The aim is not directly relevant. ➢ The strategy is inconsistent with the Priority.	➢ The item is not indirectly relevant.	
Item J: Organising Project Learning Carrying out the Related Assessment	➢ The aim is of direct potential relevance.	➢ The item is also of indirect potential relevance.	➢ Vertical staff partitioning hinders potential practice from being relevant. ➢ Possible use for selection might also hinder relevance.

Item K: Using Information Technology to Facilitate Learning	➢ The stated aim is directly relevant.	➢ The item is also of indirect relevant.	➢ The arguments for this item have neglected negative evidence directly inconsistent with the relevance.
Item L: Enhancing Students' Generic Skills	➢ The aim is not directly relevant.	➢ The item is also of indirect potential relevance.	
Items M and N: Inspiring Students to Construct Knowledge and Realising a Paradigm Shift	➢ The aim is not directly relevant. ➢	➢ The item is indirectly relevant.	
Items O and P: Developing School-Based Curricula and Contributing to the education reform	➢ The two items are not directly relevant.	➢ The items are indirectly relevant.	

Conclusion:

6-29. Observations: Two observations can be made. First, all items from E to P, except Item I, *Taking part in "Teacher Assessment Schemes"*, are indirectly relevant, ie they are necessary conditions for making *integrated learning* satisfy the Priority criteria. Secondly, of these indirect relevant items, only a small number are directly relevant. There is even an item that is inconsistent with the Priority criteria.

6-30. Conclusion: It can be concluded that there is very heavy reliance in the Policy on school educators possessing the professional knowledge needed for making *integrated learning*, and hence essential learning experiences, relevant to the Priority criteria (Paragraph 6-6, 6-7 to 6-28, 6-29). The professional knowledge is largely new to the school educators and has to be learnt. Yet, the Policy fails to communicate to the school educators how the professional knowledge they are expected to learn can be used to design student learning experiences to enable students *to enjoy learning, enhance their effectiveness in communication and develop their creativity and sense of commitment* (p. 4). Indeed, the Policy fails even to point out that a connection can be made at all between these complicated ideas. The presence of an item (Item I) inconsistent with the Priority, together with irrelevant high-status *new proposals for student learning* – identified in the last chapter (Paragraph 5-49 to 5-51) – creates some bewilderment.

6-31. The next chapter will proceed to find out if there is a plan for professional development in the Policy. If there is such a plan, it would then be examined for its consistency with the expected professional knowledge of the school educators for actualising the Priority. A perspective of knowledge management will be adopted.

Chapter Seven:

Developing School Educators' Professional Knowledge

7-1. Introduction: The last chapter confirmed that there were high expectations in the Policy that school educators were to possess very considerable new professional knowledge in order to actualise the Priority. From where would this new knowledge come? It had to be developed. This chapter aims at identifying the policymakers' plan for professional development (Section A) and then attempts to diagnose the weaknesses of the plan:

- by comparing the kind of experts who would actually be involved in the education reform (Section B) with the kind of experts who ought to be involved (Section C); and
- by comparing where the expertise would come from (Section D) with where the expertise ought to come from (Section E).

Section A: Plan for Professional Development

7-2. The first step is to identify the plan for professional development of school educators. The Policy systematically lists nearly all the strategies for professional development in common use on pages 66—67 and 151—153. In addition, searches were made using *staff*, *train*, *professional*, *partner*, and *support* as keywords. Relevant sentences were selected and examined. For convenience, the relevant sentences were rearranged into the form of "Who gets what provided by whom" using the original words or their derivatives (in italics). A subsequent list of the sources of professional knowledge is as follows:

i. *Schools and teachers* to receive *curriculum guides* and *relevant professional support* from the Curriculum Development Institute (CDI) (p. 66);

ii. *Teachers* to use *databases for teaching resources* (p. 151).

iii. *Teachers* and teachers-to-be to take courses at *degree or above level* offered by *universities* and to pursue lifelong learning in general (p. 43, 134);

iv. *Teachers* to participate in *training courses on different themes* and *in many modes*, including *online courses*, provided by *the CDI* (p. 67, 151);

v. *Principals* to be *trained* on *curriculum development and leadership* by the ED (p. 67);

vi. *Teachers and schools* to receive *support* from *selected special schools* (p. V-10);

vii. *School heads* to *network* with other *school heads* (p. 152);

viii. *Teachers* to *lead school-based projects* and to *exchange experience* with other teachers (p. 153);

ix. *Teachers* to participate in *teacher exchange programmes* (p. 151);

x. *Schools* to receive *on-site support, advice and assistance* from the *curriculum support teams* of *the ED* in *developing school-based curriculum* (p. 66);

xi. *Teachers and principals* to take part in school *self-evaluation* – a form of self-created *performance management system* (p. 52, 151-2).

An Immediate Observation:

7-3. Only Formats! How do these items enable school educators to develop the knowledge expected in the Policy? Referring to the original relevant sentences in the Policy document, an immediate observation is that the items constitute a list of nearly all popular formats of professional development. Some examples of the original sentences are as follows:

> **Develop and disseminate successful experience**: . . . Set up an online database of teaching resources, to provide schools with information on teaching resources, support services and successful experiences. . . . (p. 66).
>
> To ensure the implementation of education reform, the Government is taking various supportive measures, including:
>
> > (i) to promote the professional development of teachers and enhance their professionalism, sense of commitment and enthusiasm by:
> >
> > > providing proper training opportunities (including online courses); (p. 151).

7-4. Lack of Serious Deliberation: The large number of items in the list is impressive and probably shows that the policymakers are ready to put in much effort to develop the professional knowledge of school educators. However, no explicit connections are mentioned between these items and the stated Priority. The items are merely formats. Only a small number of these formats are explicitly linked to the specific professional knowledge expected, namely Items v, viii, and x – all linked to only one general item, namely school-based curriculum development. Although this observation does not show that these items are irrelevant to the specific professional knowledge expected, it does show that the policymakers have not seriously deliberated on how to use the items in their plan for professional development to actualise the Priority or to develop the needed professional knowledge.

Section B: School Experts:

Who Is Involved as 'Expert',

and of What Kind Is the Expertise?

7-5. Heuristic Questions: The First Set: The lack of substance and direct relevance in each item carries an additional implication that the

method of item-by-item examination used in the previous two chapters is not likely to lead to an optimal evaluation of the plan for professional development. Exploratory heuristic questions might help to classify the items and might lead to some insights. Two sets of exploratory heuristic questions (Paragraph 2-9; Ulrich, 1987; Jackson, 2000, p. 318) are appropriate here. The first set is:

A. Who is involved as *expert*, and of what kind is the expertise? (*Expert* refers not necessarily to a special individual with extraordinary knowledge but to the general professional whose knowledge is to contribute to the education reform.)

B. Who ought to be involved as *expert*, and of what kind ought the expertise to be?

7-6. Heuristic Question A: Regarding Heuristic Question A, it is observed that the list of items for professional development involves the teacher and the principal as the only professionals in the front line. Teachers in secondary schools in Hong Kong are essentially subject specialists. Teachers in primary schools also pride themselves on being a specialist in the subject of Chinese, or English, or Mathematics although many probably teach more than one subject. The expertise of teachers in Hong Kong is the teaching of their respective subjects.

Section C: School Experts:

Who Ought to Be Involved as Expert, and of What Kind Ought the Expertise to Be?

7-7. The Psychologist: The captioned question is Heuristic Question B. Its answer was actually strongly hinted at in the last chapter. While reading the list of items of professional knowledge expected in the Policy, a reasonable conclusion could have been that the education reform needed the psychologist in the front line, perhaps as much as the subject teacher. In fact, the Policy does point out the importance of psychology in the education reform (p. 8, 14, 44, 49, 54, V-8). However, schools in Hong Kong in general are weak in psychology. This can be seen from two facts. First, the government employs clinical psychologists and educational psychologists only in central offices, but not other kinds of psychologists and not in schools[1]. Secondly, schools tend to employ teachers who are specialists in disciplines directly related to subjects in their school curriculum and only a very small number of schools offer the subject Psychology. Only 1.6% of the 27,414 Advanced Level Examination

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[1] The salaries and types of professionals employed in the vast majority of schools in Hong Kong are controlled by the Government, except for a small number of private schools and a growing number of direct subsidy schools.

candidates from day schools took Psychology in 2002 (Hong Kong Examination and Assessment Authority, 2002). There are probably less than twenty educational psychologists working in the area of curriculum development, helping local schools in matters like learning difficulties and giftedness. Referring to the original text in the Policy, the plan for professional development does not involve the psychologist in any capacity. As a methodological check, the keywords *staff*, *train*, *professional*, and *partner*, and *support* have not excluded the psychologist or any other kinds of related professionals either. Although there are courses for teachers in the plan and it is likely that some psychologists will be involved as tutors, the effectiveness of such isolated opportunities is extremely doubtful. It is, therefore, concluded that the plan for professional development has neglected the expertise of psychologists.

7-8. Teams and Diversity: Psychologists are currently in short supply in Hong Kong. Nevertheless, it is possible for the psychologist to work closely with teachers in a team. By having formal and informal intellectual and practical interactions with teachers, the psychologist can have a knowledge-sharing role and can be both a giver and receiver. The Policy should have included the psychologist and, by a similar argument, the sociologist in its plan for professional development.

7-9. Possibilities of Negligence: It is clear that the Policy has neglected the psychologist. However, more fundamentally, there is some reason to suspect that the Policy has undervalued diversity as an element of knowledge creation among school professionals. Related to this question, it was found out in Chapter Three, while examining the concept of learning in the Policy, that the Policy had neglected the social aspect of knowledge construction and had not regarded the school as a learning organisation. It is probable that the Policy has not transcended the traditional concept of professional development by drawing on experience in managing the creation, the mediation, and the use of professional knowledge. This relates to the next finding.

Section D: Sources of Expertise:

Where Does the Expertise Initially Come From?

7-10. The second set of exploratory heuristic questions is:

C. Where does the expertise initially come from?

D. Where ought the expertise initially to come from?

Immediate Sources of Professional Knowledge

7-11. Four Immediate Sources: Regarding Heuristic Question C, it is observed from the list of items for professional development (Paragraph 7-2) that the expertise of teachers and principals is expected to come from four immediate sources

(1) tertiary teacher educators (Items iii, iv, v),

(2) central government officers, eg CDI officers (Items i, ii, iv, v, x),

(3) fellow teachers and principals from other schools (Items ii, vi, vii, viii, ix), and

(4) colleagues from the same school (Item xi).

Examining the properties inherent in these four sources might lead to identifying the weaknesses of the plan for professional development.

Properties Inherent in the Four Immediate Sources

7-12. Tertiary Teacher Educators: The first source, tertiary teacher educators, is by far the most significant source. Teaching degree courses (Item iii, Paragraph 7-2) is part of their formal duties and professional development targeted at educational initiatives is their secondary undertaking under short-term contractual agreements with the government (Items iv and v, Paragraph 7-2). Their main duty, and the source of their resources, is creation of academic knowledge through research rather than

professional development of school educators. Hence, the strength of tertiary teacher educators lies mainly in general, high-status academic knowledge: theories and principles, supported by facts and data – alternatively classified as know-why, supported by know-what (OECD, 2000). Both degree courses and contractual courses are carried out in university campuses. For targeted professional development courses, tertiary teacher educators do not and probably cannot afford the time to visit schools or work directly with school teaching staff. For degree courses, many of them visit individual student teachers at work in schools but not the schools or their teaching staff *per se*. Thus, their main contribution to professional development targeted at the education reform is credible codifiable academic knowledge because this kind of knowledge is not only their strength but also relatively easy to transfer to other people without tertiary teacher educators working collaboratively with teachers.

7-13. Central Government Officers: Central government officers, form the second most significant source. They are responsible for the territorial administration of educational practice, including managing professional development targeted at new educational initiatives. They mostly invite speakers or contract such courses out to tertiary teacher education institutes and faculties of education (Item iv and v, Paragraph 7-2). They encourage schools to take part in new governmental initiatives and so the kind of knowledge they contribute is essentially administrative, eg rationales

behind initiatives, strategies, laws and by-laws, rules and regulations, conditions for using funds, and policy expectations. They use government venues to which speakers are invited, eg from outside Hong Kong; for contractual courses, venues in tertiary institutes are used. Administrative knowledge is also easily codified and easily transferable without the course providers working collaboratively with teachers. There could be one exceptional item, namely Item x, *Teachers and schools to receive on-site support, advice and assistance by the curriculum support teams of the CDI in developing school-based curriculum*. Paragraph 8-34 will continue on this item.

7-14. Fellow Teachers and Principals from Other Schools: Educators in the front line are more interested in procedural knowledge or know-how than in academic or administrative knowledge. Off-site opportunities for interaction with fellow practitioners, like the large-scale conferences of the Teachers' Experience Sharing Month in March, 2004 organised by the District Teachers' Network (EC, 2004, December, p. 27) (Items vii and viii, Paragraph 7-2), allow practitioners to become aware of other fellow school educators' innovations, their strategies and algorithms. However, such opportunities for short encounters can probably only address early concerns of innovations – awareness, or information, or personal interests. Much educational know-how and know-who (interpersonal knowledge and bonding), like judgment of contextual conditions, or coordination and

mutual understanding within a team, is essentially tacit – or *implicit* – and very *sticky*, ie not easily transferable to other groups or contexts (OECD, 2000). For example, a certain strategy for assessment for learning, which is efficacious in a certain school, might cause opposition from parents in another school, where some parents do not trust a few teachers. Therefore, this kind of practitioners' encounter is useful mainly for the lower levels of use of an innovation like orientation or preparation. The source could serve as a stimulant to innovations and allow sharing of codified tools (Item ii, Paragraph 7-2) rather than as a means for transferring key know-how, especially team abilities. There could be an exception, namely Item ix ("*Teachers* to participate in *teachers exchange programmes*"). This aims at transferring outsiders to work with people inside the school, rather than aiming at short encounters. However, the Policy and the three *Progress Reports on the Education Reform* (EC, 2002, January; EC, 2003, June; EC, 2004, December) say nothing about Item ix. Similarly, nothing is said about Item vi ("*Teachers and schools* to receive support from *selected special schools*"), which might also transfer people with special ability. It could only be said that there is potential for these two items to transcend the limitations of the first two sources (tertiary teacher educators and central government officers).

7-15. <u>"Off- Line" Nature of Most Professional Development Activities</u>: From the perspective of the school educator, the professional development

activities related to the first three sources require him to stop his daily assigned work, find extra time, and travel to the university campus or activity venue to learn something not directly related to his job at hand. It is convenient to borrow a term – *off- line activities* – from OECD (2004, p. 46) for such activities; similarly the term *on- line* will be used for describing an activity that is directly related to his job at hand, which he need not leave in order to attend the activity, eg *learning by doing*. Judging from the long list of expected responsibilities for the school educator in Chapter Six, *off- line* professional development on top of very heavy daily duties is not only expensive for most school educators but also impossible for some key personnel.

7-16. Colleagues from the Same School: There is only one item in this category, namely Item xi ("*Teachers and principals* to take part in school *self-evaluation* – a form of self-created *performance management system*"). Different from previous sources, this source is always on-site and in an authentic context. Moreover, the Policy suggests to school educators that internal communication would be improved. Better communication, if aiming at reaching consensus, means better collective tacit knowledge, mainly know-how and know-who. The strength of this source is not about transfer of high-status codifiable knowledge.

> By taking part in this process, the principals and teachers will have better communication, thus benefiting their professional development. We propose that

> the Government should provide training and professional support to help early childhood education providers set up and implement a self-evaluation system for the institutions. (p. 52).

While making this suggestion to school educators, the Policy tells the parent and customer, that

> . . . early childhood education providers should publish details of their mission, facilities, curricula, teacher qualifications as well as the results of self-evaluations and external evaluations so as to help parents and the public understand the standard of the service they provide: . . . (p. 56).

It is difficult for school educators to reconcile these two paradoxical intentions of the policymakers. Should school educators be self-critical with a long-term purpose to improve the school, or be self-preservative with immediate student enrolment so that the school can survive in this extreme period of low birth rate, economic hardship, fiscal deficit, and budget cut? It is unlikely that Item xi can lead to genuine professional knowledge growth in the near future.

7-17. Summary of the General Properties of the Four Immediate Sources: Summarising the paragraphs above, the professional development plan in the Policy depends mainly on transfer of codifiable academic and administrative knowledge from tertiary teacher educators and central government officers (Sources One and Two). There are some attempts of limited efficacy to transfer know-how from fellow teachers and principals from other schools (Source Three). For school educators, these

professional development activities are off-site, *off- line* and aim at injection of new ideas. Moreover, they are based on professional development of individuals rather than of operational teams, or schools. The only explicit means to create collective tacit professional knowledge on-site is of doubtful intention and hence efficacy (Source Four: colleagues from the same school).

Confirmation from the Policy:

7-18. Hierarchical Perception of the Concept of Knowledge Construction: The emphasis on transfer of high-status knowledge, as summarized from the Author's experience of the first three immediate sources of professional knowledge, can be confirmed indirectly by examining how certain concepts are understood in the Policy. Firstly, in relation to any professional knowledge, the word *support* is used 21 times in the Policy document; 19 out of the 21 are about the government officer and/or by the teacher educator supporting the school educator, but not *vice versa*. Similarly, the word *support* is used 70 times in the *Progress Report on the Education Reform (3)* (EC, 2004, December); 48 of the 70 refer to the relation between the school and the government and/or the tertiary teacher education body; 40 out of the 48 are about the government or the university supporting the school; 8 times about schools supporting each other; none about the school supporting the government or the university.

Independently of whether or not governmental reports have expected more contribution from to the government, these proportions are clear indications of a very asymmetrical and hierarchical perception in the Policy of the bilateral relationship between school educators on one side and government officers and/or tertiary teacher educators on the other side. This top-down perception is consistent with the summary above that the professional development plan in the Policy depends mainly on transfer of codifiable administrative and academic knowledge.

7-19. Negligence of Collective Knowledge and Social Knowledge Construction: Secondly, it was found in Chapter Three that, although the Policy advocated learning as knowledge construction, its concept of knowledge construction referred mainly to an active individualistic effort. The social process of knowledge construction was conservatively perceived in the Policy: there is no evidence that the school was envisioned as a learning organisation and a *learning society* as a system constructing knowledge as a holistic unit. These findings are compatible with the opinion in the Policy that school educators have to be essentially *supported* top-down. These findings are also consistent with the earlier observation that the professional development plan emphasizes transfer of high-status knowledge from government officers and tertiary teacher educators to school educators (Paragraph 7-17).

Initial Sources of Professional Knowledge:

7-20. The plan for professional development was found to be concerned mainly with how professional knowledge was transferred, with tertiary teacher educators and governmental officers as origins of the professional knowledge. It was not clear where tertiary teacher educators and government officers obtain their initial knowledge. Public literature is an obvious but inadequate answer to the query. The Policy also offers an answer.

> The CDI will develop and conduct research on the key items of the curriculum reform, and will work with tertiary institutions, interested schools and seconded teachers to develop practical experience in implementation. (p. 66).
>
> . . . teacher education providers should . . . conduct research on new pedagogical methods and carry out pilot schemes on key curriculum reform items in collaboration with the CDI and pilot schools. (p. 153).

These two quotations mean that (1) Hong Kong would produce its own knowledge and experience and (2) the knowledge and experience would be produced within consortia each consisting of the tertiary institution(s) and/or the CDI, and the pilot schools. In the two quotations, the tertiary institutions and/or the CDI take up a more prominent position than the pilot schools. While all three parties would gain practical experience, only the former two parties are said to conduct research and presumably produce high-status codified knowledge. This picture of production of initial

knowledge fits snugly with the previously constructed picture of transfer of knowledge to complete a picture from production to transfer of school educators' professional knowledge.

Section E: Sources of Expertise: Where Ought the Expertise Initially to Come From?

Conclusion: Lack of Awareness of the "Stickiness" of the Tacit Knowledge of Pilot Schools:

7-21. "Stickiness" of Tacit Knowledge: The whole picture of the plan for professional development is becoming clearer. It can now be identified that the main weakness is that, although new professional knowledge is created by consortia in pilot schemes (Paragraph 7-20), the tacit properties of the practical experience created in pilot schools or other pioneering schools are not fully appreciated (Paragraphs 7-14, 7-17). Key tacit knowledge, being not easily transferable from person to person or from

school to school, remains *sticky* within the pilot schools or pioneering schools.

7-22. Underestimating a Paradigm Shift: For relatively simple innovations in a steady-state environment, the above-mentioned plan for professional development is probably adequate for territory-wide dissemination of knowledge because it is possible for other school educators, after returning to their own schools, to re-create the necessary tacit knowledge unassisted, based on the codified knowledge received and their own not-too-dissimilar previous experience. Yet, the Policy anticipates a paradigm shift and this paradigm shift is going to take place in a fast-changing complex world. School educators are likely to find it difficult to understand many concepts, or to replicate some team know-how, or to connect new concepts conceptually or practically, eg understanding the conceptual connection between the stated Priority, social construction of knowledge and integrated learning, and creating/integrating the corresponding strategies into a practicable change process. Their difficulties can be understood by referring to paradigm shifts in other situations, eg in the history of physics: the physicists in the early Twentieth Century found it difficult to understand and deal with a system in which the mass of an object is a variable dependent on its velocity; mass and energy are interchangeable and have equivalence; waves travel in quanta; and the measuring *per se* of any quantity makes its own accuracy uncertain.

7-23. Underestimating Complexity in a Fast-Changing Environment: Complexity and Tacit Knowledge: In fact, it is exactly this perplexity during a paradigm shift and the complexity of the fast-changing state of Hong Kong immediately before and after the change of sovereignty in 1997, combined with the economic turmoil beginning in 1998, that make even some codified knowledge tacit. For, even steady conditions and traditionally reliable methods might become unreliable in fast-changing conditions and practitioners might choose to rely on their own judgment instead. This is in accordance with how Lundvall (2000) summarises tacit knowledge:

> In short, tacitness has its roots in complexity and in variations in quality. It prevails in situations where it is necessary to use several senses simultaneously, where skilful physical behaviour is involved and where understanding social relationships is crucial. The more rapid and the more radical the process of change, the less meaningful it will be to try to codify knowledge. In a steady state . . . , a gradual movement from tacit towards non-tacit knowledge might take place. (Lundvall, 2000, p. 129).

Despite the perplexity and the complexity of the environment, the plan for professional development emphasizes mostly codified knowledge and uses largely short encounters between the experienced and the inexperienced to transfer tacit knowledge (Paragraph 7-17). It has overlooked the *stickiness* of tacit knowledge (Paragraph 7-21) and underestimated the human perplexity in a paradigm shift and the complexity of the fast-change state of Hong Kong since the 1990's. The consequence for school educators could

be similar to having an unbalanced diet, stuffed with codified knowledge but starved of the complementary tacit knowledge. To confirm this weakness of the plan for professional development, it is necessary to further understand the relation between codified and tacit knowledge. Studying examples from pioneering schools might deepen the understanding. The next chapter will be devoted to confirming the weakness of the plan by referring to insights emerging from professional activities involving tacit knowledge in a school re-structuring effort relevant to the Priority.

Chapter Eight:

Confirming the Importance of Tacit Knowledge to the Education Reform

8-1. An Earlier Assumption: When the weakness was pointed out that the tacit properties of the practical experience created in pilot schools had not been fully appreciated in the plan for professional development (Paragraph 7-21), it was assumed that tacit knowledge was important and worth attending to for the success of the education reform. This assumption needs confirmation and it can be done by re-examining the tacitness and stickiness of the items of expected knowledge of school educators that have been shown to be relevant to the education reform (Chapter Six). Without loss of generality, some examples from real experience are simultaneously necessary for ease of empathising something tacit or implicit. More fundamentally, paradigm shifts spring from examples of actual practice rather than from theories and principles, as remarked by Kuhn:

> Some accepted examples of actual scientific practice – examples which include law, theory, application, and instrumentation together – provide models from

> which spring particular coherent traditions of scientific research. (Kuhn. 1962/1970, p. 10).

8-2. Practical Applicability of the Critique: So far, an academic critique of the Policy has been provided. It is also necessary to see whether the arguments developed in the critique can actually be applied in practice. An example based on the experience of the Author as a consultant to WFJL Primary School since 2003/4 is now provided.

Section A: Understanding Students' Progress, Needs and Problems (Item F)

School Example

8-3. Relevance to the Priority of the Education Reform: Understanding students' progress, needs and problems (Item F, Paragraph 6-10 to 6-12, 6-28) is far more than relying on students' recorded assessment results. An example is obtained from WFJL Primary School (hereafter called the School), which began adopting a system of interdisciplinary teacher teams for each cohort of students in the academic year 2003-2004. The P4 interdisciplinary teacher team had to meet a number of times to create connections among topics across different subjects in the P4 curriculum, to

create themes and to design related integrative real-life learning tasks. The subject matter connectedness and the real-life relevance were important because they made learning meaningful to the students (Ausubel, 1968/1978; Novak and Gowin, 1984). Meaningfulness generally induces people to spend effort, time, and even their lives on some particular cause, ie to have commitment (Frankl, 1969/1988). A certain degree of commitment is also a necessary condition for further joy to emerge from any experience (Csikszentmihalyi and Csikszentmihalyi, 1988; Pintrich and Schunk, 1996). At least two situations arose when it was found that the tacit knowledge the teachers collectively constructed about their students was important for designing *integrated learning*. The first situation, at the beginning of the academic year, was that they had to decide whether students were interested in and able to investigate some personal or social issue(s) in their integrative real-life learning tasks. Traditionally, the primary curriculum had emphasised the learning of basic skills but not issues. The textbooks contributed little to encourage investigation of issues of personal or social importance. The education reform had suggested *integrated learning* in which daily life problems and issues were to be tackled but the status of the corresponding policy mechanisms was generally low (Paragraphs 4-16 to 4-18). *Learning to Learn* encouraged the investigation of such issues in the secondary curriculum (Curriculum

Development Council, 2001, p. 46, 49, 84). For the primary curriculum, the tone was much less progressive:

> . . . connect what they [P4 – P6 students] have learnt in school to daily life problems and issues through project learning (Curriculum Development Council, 2001, p. 64).

The *timing* of making connections with daily life issues was important. The quotation stated that the connections were to be made *after* something had been learnt rather than before or simultaneously. *Learning to Learn* further confirmed that the issue would only be an *extension* (Curriculum Development Council, 2001, p. IV-1) of some previous learning rather than a focus of investigation. In Chapter Five, a significant reason for *integrated learning* to be potentially relevant to the Priority criteria was that daily life issues were the foci of student attention (Paragraph 5-47). Connecting the issue afterwards could be much less motivating and was not what the teacher team was looking for. Lacking the subtle codified knowledge from outside sources, the teacher team had to depend on what they personally knew about the students they commonly taught to make a collective decision. When the teacher team started recollecting what their students were interested in during everyday encounters, they discovered that they shared much evidence, as their students had begun raising queries related to personal issues, eg *shou shen*, a vogue in Hong Kong for a slim body. Not many issue-related queries were raised when the students were

in P3. The team then made a collective judgment that P4 was the right time to start investigating issues because the students were likely to be motivated to do so.

Tacitness of the Knowledge:

8-4. A number of different types of tacit knowledge were involved in the first situation of the example.

8-5. The First Type of Tacit Knowledge: First, the evidence discussed by teachers was something they had learnt before but had not written down, ie tacit knowledge. It was not meaningful to write down everything known about their students until the problem of whether to investigate issues was raised in the meeting. Without the problem and without a horizontal team structure for raising the problem, there would have been a lack of focus to select the right information to be written down. Regarding transferability to other schools, it was unlikely that the evidence was relevant to other schools because the students were different. Even the final judgment that investigation of an issue was suitable for P4 students in this School might not be equally accepted by other schools. It might be regarded as too progressive – at least more progressive than what *Learning to Learn* had suggested (Paragraph 8-3). The judgment made collectively from the evidence was also an example of tacit knowledge – codifiable but not written down because of a lack of incentive. Other examples consisted of

the norms and standards set up in this school for curriculum development, eg the reasons and the algorithms for carrying out curriculum mapping and the need to be critical, even on central guidance to schools.

8-6. The Second Type of Tacit Knowledge: A second kind of tacit knowledge might include the trust of one's own evidence about one's own students, the obligation to follow the team's own decision, the detailed or even idiosyncratic know-how learnt from carrying out curriculum mapping, the memory of the joy derived from creating connections between subjects, etc. These items were not codifiable. They were likely to be created by the team members themselves, eg in the process of reaching their collective decision and gathering the momentum to carry out investigation of issues, and would essentially be remembered for a long time in human emotional and episodic memories and so could not be verbally described or transferred to other people. Should another school wish to possess similar relevant tacit knowledge it would be necessary to re-create it themselves. Some key member of the P4 teacher team of the School would need to visit the other school, model the process, or even co-facilitate similar processes with a local facilitator.

The Second Situation of the Example

8-7. The First Attempt: The second situation was about a student activity held about two weeks before the beginning of an interdisciplinary theme *Healthy Lifestyles* in the middle of the academic year. The English teachers of the team had designed the activity with the aim of making an early identification of student preconceptions related to their diet. Students were to design lunch recipes and the team predicted that students would likely include a lot of junk food in their recipes. In a team meeting after the activity, the team found that not many students had included junk food! The English teachers then explained that they had observed that many students had replicated the contents of their usual lunches, which were prepared chiefly by their parents or by the school caterer! The chief student preconception serendipitously identified was not about any subject matter but was a constructed consciousness that habitually inhibited students' own freedom of creative thinking. Team members confirmed that it was not unusual that their students tended to answer questions by trying to catch teachers' intentions rather than with students' own answers. Consequently the teacher team audited and modified the subsequent student activities to ensure plenty of opportunities for free creative thinking.

8-8. The Second Attempt: The teacher team tried again to identify other preconceptions, this time by the class teachers. They then conducted a

brainstorming session in which students constructed maps of concepts related to healthy lifestyles. The session also aimed at inducing students' sense of ownership of the coming learning activities by asking them to suggest suitable learning activities for themselves. This time, again, one of the findings was unexpected. The finding was that the students had shown no concern for people except themselves during the session. Again, this finding tremendously changed the subsequent learning activities. For example, the Mathematics teacher changed her student task, which then asked students to carry out a first-hand survey of adults' (eg their family members') habits of doing exercise and their reasons for doing or not doing exercise. The last and most challenging learning task was modified so that the P4 students had to carry out a large-scale demonstration – in *multiple intelligences* – to teach P3 students in the school about healthy lifestyles. The former, by then, would show and explain what they had learnt and what they had designed or created – including singing songs, the lyrics of which they had composed, and carrying out fitness tests for the latter. The P4 students would also answer questions from the P3 audience in a setting of exhibition stations. The assessment planned for the theme was modified accordingly to include more interpersonal aspects.

Importance of the Tacit Knowledge:

8-9. Discovering Preconception in Meta-Learning: The Policy is one on student learning. At the core of student learning is student meta-learning, ie learning about learning. Student preconceptions are often considered as the most important factor in student learning (eg Ausubel, 1968/1978). So, student preconceptions in meta-learning are, therefore, at the very core of the Policy. What the English teachers found out and other team members confirmed – inhibition from creative thinking – is, therefore, very important because it was about student preconceptions in meta-learning. Similarly, what the class teachers found out – student self-centredness – was also very important for Hong Kong today, as evidenced from recent, probably unprecedented divisions in society (eg Radio host alleges . . . , 2004, May 27; Lau, 2003).

8-10. Making Codified Knowledge Usable: Besides being important, what the teachers had found out was very usable knowledge. The knowledge was usable in the sense that although local teachers were informed about local lower primary students' general inhibition from creative thinking and self-centredness, the former were not likely to use the information seriously unless they could go through a process in which they would re-construct this knowledge themselves. The information, ie the codifiable part of this tacit knowledge might not be as important as the

non-codifiable part of the knowledge, ie the awe, inspiration and ownership created and stored in their memories when teachers discovered something themselves. A good writer could describe the emotions in words but these words could hardly re-produce the emotions in the brain of the reader.

Section B: Catering for Student Diversity and Teaching Without Discrimination (Items G and H)

School Example

8-11. Making the Fundamentals Memorable: Matching Complexity with Complexity: The School selected the most fundamentally important topics in the curriculum and made them memorable for all students by connecting related subject matters to form large-scale interdisciplinary themes, eg the above-mentioned *Healthy Lifestyle*, and enriching them with integrative real-life learning tasks. Special attention was paid to facilitate all students to learn from these *essential learning experiences* (Paragraph 4-3 to 4-5). No student discrimination, no ability labelling and no streaming would be tolerated and the school ensured that the learning tasks collectively made use of the theories and practices both of *multiple intelligences* (Gardner,

1993) to suit students of different intellectual profiles and of co-operative learning (eg Johnson, Johnson, and Holubec, 1994) to capitalise on the diversity of students' intellectual profiles. In accordance with Ashby's *law of requisite variety* [1], in order to capitalize on student diversity, it was also necessary for the school to re-structure its teaching staff so as to increase their complexity to match the diversity of its students – much in the same way as an orchestra requires the fine co-operation of musicians excelling in different instruments in order to play sophisticated music. The complexity within the school teaching staff was capitalized at two levels, namely the school knowledge-management level and the teacher team level.

Collective Know-How at the School Knowledge-Management Level:

8-12. At the school knowledge management level, there were three kinds of expertise. First, there was a team of teachers each taking care of a cohort of students. A teacher team collectively possessed subject expertise and detailed knowledge of the interests, needs, and abilities of individual students. Then, there was the consultant, who offered chiefly academic knowledge and experience of using it in other schools. Then there was the

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[1] [Ashby defines] the "variety" of a system as the number of possible states it is capable of exhibiting. It is, therefore, a measure of complexity. . . . the law of "requisite variety" . . . is that "only variety can destroy variety". In order to control a system, we need to have as much variety available to us as the system itself exhibits. So, if a machine has 20 ways of breaking down, we need to be able to respond in 20 different ways to be in control of the machine. (Jackson, 2000, p. 73).

principal, who offered chiefly administrative knowledge and experience with politics. She also had the best knowledge about the nature of the commitment and the abilities of individual teachers, the sources of resources, and the demands of parents. These three kinds of expertise constituted the codified components of the collective know-how to meet the challenge of student diversity at the level of school-based curriculum development and professional development. In addition, there was an enthusiastic school board manager, who closely represented the board and the School Supervisor in terms of values. She was a well-known retired educator.

8-13. Creation of Tacit Knowledge: The tacit component of the collective know-how was co-created in an iterative process of demand and supply among the experts. For example (summarised from tediously many details to bring out the main concept), the school manager was insistent on no discrimination and no ability labelling of students regarding fundamentally important elements in the curriculum. The principal opined that the focus of education was more on the students than on the school subjects. The consultant responded to the second demand by *supplying* the proposal that the main structure of the teaching staff should be horizontal teacher teams each focusing on a cohort of students for a few years, instead of the traditional vertical structures of panels or departments, which focused on school subjects or KLAs. Also, a few teachers proposed the use

of co-operative learning and the consultant further proposed a modification to combine co-operative learning with the concept of *multiple intelligences*, as a response to the demand of the school manager. The teachers then saw that it was not possible for each teacher to be strong in all *intelligences*. Hence, all agreed that the use of *co-operative learning* and *multiple intelligences* would emphasise the co-operation of people of different intellectual profiles both at the student level and at the teacher level. Thus, the experts arrived at a consensus that would guide further detailed planning of the curriculum.

8-14. Symmetrical Production of Tacit Knowledge and Complementarity of Tacit Knowledge and Codified Knowledge: In the process above, a large amount of information was produced, carrying the details of their communication. Many emotions and feelings associated with the details were also simultaneously produced. It was tedious to record all the details and impossible to record the emotions. Hence, they remained tacit. Yet, this tacit knowledge stayed in the memories of members and continued to affect their future decisions. In fact, memories could activate emotions, which could then have larger positive effects than reasoning (eg LeDoux, 1996) and emotions could be remembered much longer than words (eg Caine and Caine, 1994; Sprenger, 1999). The remembered tacit knowledge would continue to set priorities and conditions for the experts to apply their knowledge, that is, in the language

of cognitive scientists, the tacit knowledge had *conditionalised* (Bransford *et al,* 1999, p. 31) the codified knowledge. In other words, the commonly produced and possessed tacit knowledge had made the individually possessed codified knowledge applicable under the boundary conditions. There was also a point to note that the production of the common tacit knowledge was symmetrical because the teachers, the consultant, the principal set conditions for each other and *supported* each other, in contrast with the hierarchical concept of support in the Policy (Paragraph 7-18).

Collective Know-How at the Teacher Team Level:

8-15. Focus on Students and Associated Diversity: Complexity = Differentiation + Integration: As mentioned before, to focus on students and the associated diversity, the School had been trying to enhance the complexity of the staff structure by introducing horizontal teacher teaming. As a start, each and every teacher was teamed according to the cohort of students she mostly taught and members of the same team had their seats together in the staff room to facilitate their communication and connectivity. Each team frequently discussed how their common students had been reacting in lessons. In comparison with vertical panels/departments of teachers of the same/similar subjects, the horizontal teacher team was interdisciplinary and hence carried more complexity. The significant complexity lay in the improved connectivity among its

diverse members. One way to appreciate the complexity was to view it from the perspective of combinatorial mathematics. The number of ways of interaction and communication among a team of five to ten teachers of different expertise was huge in comparison with that among five to ten *isolated* teachers of different expertise, or in comparison with that among five to ten teachers of *similar* expertise. In the language of complex systems, *differentiation* might make a system complicated but not necessarily complex; *integration* (Csikszentmihalyi, 1993) or *organisation* (Davis, 1987/1989) of the differentiated parts would create complexity. Complexity would give rise to tacitness in knowledge. Similar to the communication at the school knowledge-management level, it was this integration or organisation that embedded much collective tacit knowledge in the P4 teacher team.

8-16. Interdependence and Mutual Trust: Interdependence and mutual trust was an example of the collective tacit knowledge when team members were organised to team-teach the theme *Healthy Lifestyle*. The whole team relied on the English teachers and the class teachers to identify the preconceptions of the P4 students. The General Studies teacher, the Music teacher, and the Physical Education teacher relied on the Chinese Language and the English Language teachers to help students to search and study articles and materials from books, newspapers, libraries and the internet, and then to do their own writing. The Chinese Language and English

Language teachers relied on the school librarian and the Computer Education teachers to teach the students searching and evaluation skills. Finally, the team relied on the Music teacher, the Physical Education teacher, and the General Studies teachers to help the students to use the prepared materials to compile works: lyrics and singing, fitness tests, charts, articles, and speeches for presentation to P3 students.

8-17. The Process of Establishing Interdependence and Trust: The idea of interdependence was not a top-down arrangement but a natural development resulting from team members' understanding that, facing a diverse student population, it would be hopeless for isolated teachers to fulfill the very high expectations of the Policy or to meet the parents' demand for high quality education. In the beginning, some teachers showed discomfort on their faces about having to be dependent on what other teachers had taught. In the course of group discussions and detailed planning in which teachers made mutual requests, offers, and promises, members became sufficiently satisfied. These requests, offers and promises formed the basis of the tacit knowledge and the mutual trust that underpinned the interdependence. The continual sharing of what had been happening in each other's lessons, including student responses and behaviours, further enhanced members' sense of control and being informed.

8-18. Intertwinement of Learning and Emotions: The continual sharing of ongoing information and professional knowledge was much associated with ongoing changes of teachers' emotions. The importance of student preconceptions for learning was associated with the sense of serendipity. The psychological need for challenge to entice students was connected to worries about student anxiety. The teaching of skills to students to match the challenge led to the encouragement brought about by student enthusiasm in learning. Then at the student presentation session, the sight of their students' eagerness in attempting to persuade the P3 students was a great reward to the teachers and underpinned the recognition of the whole concept of optimal experience and emerging intrinsic motivation. The presentation to parents of the theories involved and the corresponding illustrations taken from lessons was greeted with positive feedback and followed by joy and appreciation of the co-operation between pupils and the interdependence among teachers. It could be seen that learning, emotions, and complexities of life were intertwined when teachers and students lived through the essential learning experiences. The more intertwined they were, the more tacit and sticky the knowledge and memories became. Codified knowledge distilled and isolated from its complex and emotional experiences would lose much meaning.

8-19. Co-Possession of Common Knowledge: A feature of collective tacit knowledge in the team was the co-possession of certain knowledge

created and/or used by the team during their communication, eg shared information[2] about students, common codes of communication, and shared vision[3]. For instance, when team members carried out curriculum mapping for a second time, each of them well knew what to expect, what to prepare, what others were looking for, how to co-create connections between elements in different subject curricula, how to create focus questions to structure the theme, etc. Terms like *co-operative learning*, *multiple intelligences*, *priority of the education reform*, *curriculum integration*, *knowledge construction,* and *assessment* often mean different things for different people in different contexts and often cause confusion. After working together for a few months to develop and implement the theme *Healthy Lifestyle*, many fuzzy concepts and values had begun to carry shared specific conceptual and practical meanings so that communication became more precise. A teachers' curriculum vision sharing session conducted after the academic year 2003/2004 showed more alignment than the one conducted before.

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2 Known as *redundancy of information* by Nonaka and Takeuchi (1995, p. 85).

3 One of the *five disciplines* in Senge's (1990) concept of *learning organisations*.

Section C: Organising Project Learning and Carrying out the Related Assessment (Item J), Using Information Technology to Facilitate Learning (Item K), and Enhancing Student Generic Skills (Item L)

School Example

8-20. Emphasising the Priority of the Education Reform: Integrative Real-Life Learning Tasks: The above discussions on interdependence mentioned that the students of the School carried out a number of learning tasks. The Policy used the term *project learning* (p. 67, II-2) while the School called them *integrative real-life learning tasks*. Each of the words in *integrative real-life learning task* represented a set of heuristic factors that aimed at fulfilling certain aspects of the Priority. *Task* represented *task for emerging joy of learning* (Csikszentmihalyi and Csikszentmihalyi, 1988). The heuristic factors for consideration were *meaningful aim of the task, challenge to students, skills and knowledge matching the challenge, timely heuristic feedback, companionship in learning, effort input by students*, and *attentiveness of students*. *Real-life* referred to the heuristic

factors *relevance to real life, moral purpose for students*, *constructive involvement of emotions, investigation of personal and/or social issues, authentic clients or audience, information-richness,* and *creative thinking. Integrative* referred to the heuristic factors *requirement of co-operation, concern for others, and involvement of multiple intelligences/memories/subjects*. *Learning* represented *social construction of knowledge* (p. 40). It referred to designing the set of tasks in such a way that students would use and demonstrate knowledge-construction abilities – *information processing, complex thinking, collaboration*, and *effective communication* (Marzano *et al*, 1993) – in the set of tasks and these abilities would be assessed for the purpose of giving feedback.

8-21. A Portable Form of Tacit Knowledge: The case of WFJL Primary School illustrates a particular form of tacit knowledge – experts' judgment of the nature and extent of applicability of their codified knowledge to different particular situations. In the case of the consultant and his codified knowledge about education innovations, this judgment referred to his holistic evaluation of many complex factors, such as challenge posed by interdisciplinary teaming, basic skills required for applying the concept of *multiple intelligences*, resources (including time) needed for curriculum integration, compatibility between *co-operative learning* and *multiple intelligences*, acceptability of formative assessments by parents, potential personal growth and psychological reward from carrying out curriculum

integration. Similar to the previously mentioned form of tacit knowledge that was collectively possessed at the knowledge-management level, this particular form had also conditionalised (Paragraph 8-14) the consultant's codified knowledge. The difference was that this particular form was possessed by the consultant and had been created as he applied his codified knowledge to different situations, including those in previous schools. The situations had been complex and changing so codification had not been possible. Consequently, unlike the previously mentioned form, which was absolutely sticky to the situation, this form of tacit knowledge was *portable* and could be applied when the consultant worked with other schools. For example, every time he introduced the use of formative assessments to a school at a certain level, he gained some such tacit knowledge from the process. Next time, he found that he could exercise his judgment more confidently about the extent to which formative assessment would be used. In fact, formative assessment had been formally applied to learning tasks in the third year of a re-structuring program of a school a decade ago but it was applied in the first year in the case of WFJL Primary School. It was quietly introduced in the case of P1 in the School but was formally introduced with documentation in the case of P4. The judgment of the extent, the tempo, and the strategy for introducing changes in assessments required careful consideration of a large number of factors like the interest and the professional growth of teachers, the sensitivity of parents to

assessments, the availability of time resource, and the match with other innovations in addition to the benefits to students. The more complex the situation was, the more tacit this knowledge became (Paragraph 7-23).

Section D: Inspiring Students to Construct Knowledge and Realising a Paradigm Shift (Items M and N) and Developing School-Based Curricula and Contributing to the Education Reform (Items O and P):

8-22. These four items of expected knowledge of school educators indirectly relevant to the education reform are more general than the previous items. The tacit knowledge associated with these items has already been described in the paragraphs above.

Section E: Concluding the Importance of Tacit Professional Knowledge to the Education Reform plus a Summary of the Codifiability and Transferability of Knowledge

8-23. Importance of Tacit Professional Knowledge: By closely analyzing the examples taken from a school in the course of re-structuring according to the Priority, it was found that the professional knowledge expected to be possessed by school educators in the Policy (Paragraph 6-4) consists of complementary and closely intertwined codified and tacit components. The expected knowledge has already been found to be relevant to the education reform (Paragraph 6-28).

8-24. Better Understanding of Tacit Professional Knowledge: In addition, the codifiability and transferability of tacit knowledge have become better understood. Better understanding could lead to refinement of the critique of the Policy's clauses on professional development. The understanding is described below together with the codified knowledge juxtaposed for convenience to produce a more holistic picture.

Codifiability of Professional Knowledge:

8-25. The First Level: Regarding codifiability, four levels have been identified. At the most codifiable level, there are facts and information.

They are known as know-what by economists (OECD, 2000). They have been created or collected and then codified purposely in the past.

8-26. The Second Level: At the second level of codifiability, there are theories and principles. They are known as know-why by economists (OECD, 2000). They were created with justification from facts and information. For school educators, they are available in courses and from public literature. They can be created by school educators themselves, not as a mandatory responsibility but as a desirable optional action research.

8-27. The Third Level: At the third level of codifiability, there are forms of tacit knowledge that are codifiable but actually not codified due to the lack of incentives or suitable management structures, eg they may be seen as being of limited use to other people or the school may lack an interdisciplinary teacher team structure for discussions about common students. These forms of tacit knowledge are the codifiable components of what economists chiefly call know-how and know-who (OECD, 2000), but are not actually codified. An example, related to the school educators' expected ability in *understanding the student's learning progress, needs and problems* (p. 10, 16, 36, 46), is what the P4 teachers knew about changes in their students' curiosity about issues of personal and social importance (Paragraph 8-3). These forms of tacit knowledge are created during the teachers' normal teaching activities and originate in the

complexity of the activities and the tediously large amount of information so created.

8-28. The Fourth Level: At the fourth level of codifiability, there are forms of tacit knowledge that are non-codifiable by nature, eg leadership. These are non-codifiable components of chiefly know-how and know-who. Examples, related to the school educators' expected ability in *catering for student diversity and teaching without discrimination* (p. 12, 76, V-3), are interdependence, trust, shared vision, and confidence in theories, principles and values commonly held within a teacher team (Paragraph 8-16, 8-18). These forms of tacit knowledge are learnt human potentialities of school educators, similar to what the Policy calls *inner qualities* of students (p. 38). These potentialities are created *on- line* (Paragraph 7-15) in the shared life experiences in the school and entwined with emotions in these life experiences.

Transferability of Professional Knowledge:

8-29. The First Level: Regarding transferability of knowledge, four levels are also identified. At the most transferable level, there are facts and information, or know-what. They can be easily transferred to other people and are readily available to school educators in Hong Kong, eg using information technology. However, since too much information is produced nowadays, school educators might be insensitive to much information.

8-30. The Second Level: At the second level of transferability, there are theories and principles, or know-why. They are also easily transferred and readily available, there being very little privately owned knowledge in education in Hong Kong. They are less transferable than facts and information as they require a process of understanding, and hence might often require someone to explain them. Also, they are not always accepted in practice by school educators as theories and principles are often poorly conditionalised (Paragraph 8-13) for school educators to judge the potential risks in implementation. Besides, professional development courses do not include after-adoption *trouble-shooting* and *maintenance* services. Since these factors are often overlooked, much professional development effort applied to transferring theories and principles is often wasted, thus creating a hidden cost.

8-31. The Third Level: At the third level of transferability, there is personal tacit knowledge that has conditionalised the codified knowledge of the possessor. An example is the personal experience of the consultant gained as he applied his codified knowledge of educational innovations to different schools and with different people. Although the tacit knowledge *per se* is not transferable to other people or sites, it is *portable* by the expert possessing it (Paragraph 8-21). The more an expert possesses such personal tacit knowledge, the more usable his codified knowledge is. Also, the more complex a situation is, the more it requires experts possessing

much relevant personal tacit knowledge because non-conditionalised codified knowledge is less applicable. Personal tacit knowledge at this level of transferability carries high potentialities for spreading the adoption and application of innovations to new sites.

8-32. The Fourth Level: At the fourth level of transferability, there is collective tacit knowledge, eg the competence of the P4 teacher team in organizing integrative real-life learning tasks (Paragraphs 8-16, 8-18). Tacit knowledge at this level cannot be transferred and can only be re-created for other teams or at other sites when a consultant or a key member of the former team carrying portable personal conditionalised codified knowledge works with the latter team, much like the case of a coach or a captain of a soccer team becoming the coach of another soccer team.

Section F: Returning to a Special Item of the Professional Development Plan of the Policy

8-33. Potentialities for On-Site Social Construction of Codified and Tacit Professional Knowledge: There is a special item of the professional development plan of the Policy that has not yet been examined, namely Item x, "*Schools* to receive *on-site support, advice and assistance* by the *curriculum support teams of the ED* in *developing school-based*

curriculum" (p. 66). This item is a promising but scarce measure. It is an on-site measure that links a school with an outside source of codified professional knowledge and simultaneously has the potential for paying attention to both specific school conditions and for school educators to create codified professional knowledge and the corresponding complementary tacit knowledge. Other items of the professional development plan are chiefly off-site and heavily biased against production of tacit knowledge.

8-34. Limitations: The Policy, however, has not fully capitalized on this measure. First, as mentioned earlier, the Policy's perspective is hierarchical and refers to one-way support (Paragraph 7-18) rather than symmetrical social construction of knowledge. This hierarchical attitude would affect the human relationship and other qualities of the tacit knowledge to be created. Secondly, the curriculum officers going out to schools are mainly specialists or seconded experienced teachers of the three subjects Chinese Language, English Language and Mathematics and thus the know-how learnt by the teacher remains essentially within such subject territories. Although such know-how is always welcome it misses the Priorities. Types of know-how beyond teaching of the three subjects, eg those oriented towards child and adolescent development, towards generic teaching and learning, towards curriculum integration, towards professional leadership, etc are also much needed and are more relevant to the education

reform. It is unclear whether the Policy is aware of this and other possible limitations historically imposed on this measure. Thirdly, it is unclear what importance the Government has attached to this measure. Such curriculum officers so far can work with only a limited number of school teachers and unless there are some other measures that can *multiply* this on-site knowledge creation, it remains more cosmetic than effective for the whole territory.

8-35. To Overcome the Limitations: Two measures, namely *establishing a professional ladder for teachers* (p. 151) and *promoting teacher exchange programmes in different districts* (p. 151), could be modified and integrated to create a supply of master teachers. Each master teacher would need a base in her innovative home school and would have characteristic portable professional knowledge ready to act as a consultant/change agent to other schools. These master teachers would be similar to pollen grains that travel to fertilise the ovaries of other plants and allow subsequent growth to take place under the conditions of their individual local environments. Unlike many other items in the professional development plan, the system of master teachers would not disregard local conditions and expect ovaries to travel to pollen grains! The system of master teachers should be the next item in the territory's agenda for educational policymaking.

8-36. An Example of Future Policy Agenda Items: Future policy might have to plan for the creation of an environment that would be conducive to the development of master teachers capable and ready to work with other schools. Some issues are beginning to emerge. For example, a number of the young teachers of WFJL Primary School involved in innovations are beginning to study for higher degrees in education. If it is desirable to multiply the innovations in the school to other schools, it is necessary for some of these teachers to be specialised in psychology and sociology in education. Such kinds of expertise are needed to develop the inner qualities of students, to promote effective communication and social construction of professional knowledge among teachers, and to facilitate the envisioned paradigm shift. However, there has been an initial indication that these teachers prefer to be specialised in linguistics – a personal response to the clear high demand for English and Chinese teachers. Although these teachers are only individual cases, the situation illustrates that there might be a need for the EC to review the education pathway in which school educators in pioneering schools would acquire the necessary academic knowledge relevant to the Priority at the postgraduate level. The corresponding incentive has to be considered as well.

8-37. Another Example: Another issue is that there is no administrative mechanism at present for a teacher employed in one school to spend a certain amount of time working in another school. For example, in a few

years' time, a teacher of WFJL Primary School might be both academically qualified and professional experienced in leading horizontal teacher teaming. In order to help another school to introduce horizontal teacher teaming, merely giving a few talks to teachers of the other school is far from sufficient. S/he might have to find a partner in the other school and work together with his/her partner at frequent occasions. S/he might need to have meetings with decision makers of the other school. S/he and his/her partner might co-facilitate, for example, integrated learning experiences for students in the other school. Modelling is important in this case. The situation requires that a part-time teacher has to be employed to take over some of his/original duties in WFJL Primary School. Since the Government pays the salary of all teachers ultimately, a policy agenda item is necessary to promote this kind of sharing of key expertise and to make corresponding administrative and financial arrangements. It is not advisable for this teacher to leave WFJL Primary School completely for at two reasons. First, WFJL Primary School needs such master teachers, who would also bring in new knowledge from the other school. Secondly, this master teacher needs WFJL Primary School, which is likely to continue developing horizontal teacher teaming or other related innovations.

Section G: Summary of Chapters Seven and Eight

8-38. Neglect of Tacit Knowledge: The plan for professional development of school educators in the Policy relies too much on knowledge supplied off-site and *off- line* by tertiary teacher educators and government officers. The plan has overlooked the concept that the professional knowledge required to achieve the Priority has complementary codified and tacit components. Tertiary teacher educators and government officers supply mainly the codified component. The tacit component has to be created by school educators themselves collectively *on- line*. Encounters with fellow school educators from other schools suggested in the plan for professional development are *off- line* and too short to create the necessary tacit knowledge.

8-39. The Psychologist and the Consultant: The plan for professional development has neglected the role of the expert whose expertise most suitably focuses on the Priority, namely the psychologist. The psychologist and other experts can also act as school consultants, the role of whom is also neglected in the Policy. They could have a base at an innovative home school and could then visit other schools, model key strategies, and co-facilitate, together with local facilitators, the creation of the necessary tacit knowledge *on- line* and on-site.

8-40. Territorial Supply of Consultants: The supply of school consultants can be produced by modifying and integrating three measures in the plan for professional development, namely the ED's on-site support, advice and assistance to schools, the extension of the present professional ladder of teachers, and the teachers' exchange programmes.

Chapter Nine:

Conclusion

Two Paradoxical Lines of Reform

9-1. The First Line of Reform: The Education Commission perceives a changing world in which *industrial economy is gradually replaced by knowledge-based economy* (p. 27). Accordingly, the Policy proposes to reform the education system of Hong Kong based on a change of the concept of learning from passive reception to continuous construction of knowledge (p. 40). The dissertation has identified that there are two lines of reform in the Policy. Although both of them claim to promote lifelong learning, they are paradoxical. The first and central line sets the Priority of the education reform (p. 4), which emphasises the *inner qualities of a person* that intrinsically motivate lifelong learning. This line advocates that knowledge is constructed through learning experiences. *Schools should* organise learning experiences that make use of problems and issues in daily life and in the workplace. This would involve integrating different subjects as well as the formal and the non-formal curricula. In fact, the line anticipates that the educational change created would be a paradigm shift.

Paradoxically, the implementation strategies for this line are of very low status.

9-2. The Second Line of Reform: The second line has an economic orientation rooted in the development of *Education Commission Report No. 6* (1996). It perceives linguistic and mathematical abilities as well as generic skills as basic to lifelong learning. It proposes to use high-status assessments of Chinese, English, and Mathematics at the interface between different stages of education to control the quality of primary schools and that of graduates of secondary and tertiary education. Generic skills are chiefly considered as products of senior secondary and tertiary education. Both measures aim at supplying flexible, employable, and competitive knowledge workers to the businesses in Hong Kong. In comparison with the first line, the second line proposes high-status regulatory and control strategies, which could easily undermine the socio-psychological orientation of the first line.

9-3. Escaping or Facing Complexity: The second line escapes complexity in reality. It keeps itself to formal knowledge and neglects the social and collective aspect of learning. In comparison, the proposals of the first line begin to address complexity. For example, complexity tends to create more tacit knowledge (Paragraphs 7-23 and 8-27) and the first line emphasises learning experiences and the inner qualities of the student. A

learning experience is rich in tacit knowledge about the context, the culture, and the people while the inner qualities of a student include the learnt traits of his/her personality and are often lifelong lasting but cannot be tested truly with paper and pencil. In addition, the anticipated paradigm shift of the first line would create rapid and uncertain changes that render knowledge codification less meaningful. (Paragraph 7-23).

Recommendations on Addressing Complexity

At Student Level

9-4. Need for a Model of Social Construction of Collective Knowledge:

In a number of ways, the first line still underestimates the complexity and the perplexity of a paradigm shift, eg in the adopted model of knowledge construction. In Paragraph 1-29, Morris *et al* (1996) found that the TOC reform, carried out in the 1990s, had brought little fundamental change to the practice of learning and teaching. Student group work, recognition that students can learn in different ways and the contextualisation of learning tasks – evidence that students construct knowledge socially and collectively and that teachers appreciate the significance of tacit knowledge in student learning – were found to be rare in the classroom. The analysis in Chapter Three (Paragraphs 3-3 to 3-7, 7-19) showed that the Policy recognises that knowledge is *constructed* but its concept of knowledge

construction has not extended beyond the notion of active individualistic effort and division of work. Generic skills – including communication and collaboration among others – are found to be considered merely as a product of senior secondary education and higher education. At a personal level, the learning of generic skills would be considered merely as a means to improve individual competitive employability (Paragraph 4-19). Even if such an education reform were successful, it would chiefly produce highly competitive citizens who would see other citizens as competitors but had not sufficiently learnt how to work with others to produce collective knowledge. For, collaboration is something to be learnt in action since childhood. The consequence of such education reform would lead Hong Kong away from its egalitarian vision of harmony. In fact, for egalitarian reasons, the Policy has started to create a fairer secondary school system by widening the academic bands of Primary 6 students when allocating them to Secondary 1. The accompanying increase in cognitive diversity of students within a secondary school is now becoming a huge problem for the teachers and a barrier to learning for the students. The recommendation is clear. Educators should quickly develop classroom and organisational strategies to promote a model of social construction of personal and collective knowledge that can capitalise on students' cognitive diversity instead of allowing it to continue to be a barrier to learning (Paragraphs 6-14 to 6-16).

9-5. Need for Re-focusing on the Stated Priority of the Education Reform: The significance of the concept of *experience* has been underestimated in past curriculum development initiatives in Hong Kong. The history of curriculum integration in Hong Kong shows that although official discourse repeatedly claimed the social and psychological benefits of curriculum integration and emphasised interesting learning activities, policy mechanisms also repeatedly confined themselves to logical and epistemological means, eg merger of related school subjects (Paragraphs 1-11 to 1-34). The Policy has the wisdom to emphasise the social and psychological aspect of experience by upholding *joy of learning*, *effective communication*, *creativity* and *commitment* as the priority of the education reform and by proposing the idea of *integrated learning* (Paragraphs 4-16). However, the Policy fails to propose any policy mechanism for actualising the idea of *integrated learning* (Paragraph 4-17) and is unable to demystify the two sets of conditions that would reconcile two common occurring conceptual gaps: (1) between *experiential knowledge* and *academic knowledge* and (2) between *joy* and *hard work* (Paragraphs 4-7 and 4-8). In comparison, the policy mechanisms for logical and epistemological curriculum integration – key learning areas, integrated subjects – are of much higher status (Paragraphs 4-22 to 4-26). If the education reform fails to make learning experiences sufficiently knowledge enriching or sufficiently intrinsically motivating, traditional academic rationalism and

top-down didactic methods will continue to prevail against the egalitarian vision that all can learn and can enjoy learning throughout one's life.

9-6. Strengthening Attention to Psychology and Sociology of Learning: The recommendation is that it is necessary to re-focus the policy mechanisms of the education reform on its stated priority. Curriculum design and classroom teaching should pay much more attention to students' psychology and to the sociology of learning. It is necessary to strengthen the relevant professional knowledge of school educators for optimising learning experiences, eg knowledge of emergent intrinsic motivation for learning and consensus-reaching communication. People with such relevant expertise should be incorporated to work closely with teacher teams and with parents (Paragraph 7-7).

At School Organisational Level,

9-7. Horizontal Interdisciplinary Teacher Teaming: One of the benefits of the TOC initiative was that schools began appreciating teamwork (Paragraph 1-28). The traditional subject panel divides the teaching staff of a school vertically and this does not facilitate inter-subject cooperation or personnel transfer. The idea of KLA is a form of quantitative structural curriculum integration (Paragraphs 1-19 and 1-20) based on administrative and epistemological considerations but not on social or psychological principles. The potential grouping of the teaching staff according to KLAs

would facilitate within-KLA interactions but might lead to what Hargreaves (1994) calls *balkanisation* or *collaboration that divides*. It is therefore essential for schools to adopt the kind of teacher grouping that facilitates the building of the kind of collective tacit knowledge of teacher teams that is relevant to the priority of the education reform, as listed in Chapter Six. Chapter Eight has illustrated the kind of collective tacit knowledge built up by the horizontal interdisciplinary teacher team. It favours cross-curricular approaches of *integrated learning*, which are based on complex real-life issues, because the team's *requisite variety* (Paragraphs 8-11, 8-15) can better match the complexity of real-life issues. In addition, to honour the claim that *students are the focal point of the entire reform* (p. i), horizontal teacher grouping emphasises sharing of common students – and thus building collective knowledge about them (Paragraph 8-27) – and is more relevant than those forms of grouping that share common school subjects or common broad knowledge fields. By sharing common students in a cohort, the interdisciplinary team is also a convenient working unit for considering students' learning experiences from social and psychological perspectives and for regulating the collaborative/individualistic/competitive culture of the classroom. Practicability and general popularity of horizontal teaming have also been demonstrated in business and in American middle schools (Paragraph 1-43 and 1-44). However, this horizontal form of teacher grouping is

uncommon in the traditional academic rationalist culture of Hong Kong. In view of this, the recommendation is to start the relevant R&D immediately. Popularisation movements would have to follow.

9-8. On-Site and On- Line Collective Professional Activities: In the Policy, the plan for professional development is heavily biased towards top-down, off-site, and off- line activities to import codified knowledge from outside the school. Yet, Chapter Eight has illustrated that much of the school educators' professional knowledge required to actualise the Priority is on-site, collective, and tacit, especially in the present era of complexity and change. It can be observed that inputting codified professional knowledge, building collective tacit knowledge in teams, and designing curricula and instruction are all necessary professional activities of teachers. The existing system requires these professional activities to be carried out at different times and at different sites. Teachers have limited time as well as extremely inflexible time schedules. Nevertheless, being at a low level in the education power hierarchy, they have limited means to change the existing system. Obviously, it is much more economical to integrate these professional activities such that they are carried out simultaneously and at the same site – the school. In this way, the boundary between work and learning of the school educator is dissolving. It is noted that the concepts of situated learning and on-the-job learning are not new in many other sectors of society. Such practices exist at the international level (Paragraph

1-41 to 1-45) and pioneering work has started in some other sectors in Hong Kong (Paragraph 1-40). It is therefore recommended that Hong Kong needs models of educational consulting. Consultants, especially those with expertise in psychology and sociology of learning, should work closely with horizontal teacher teams so that teachers can work and learn in the school and at the same time. The concept fits well with the need to develop a model of social construction of collective knowledge and with re-focusing attention on the stated Priority of the education reform. Since the government controls many of the educational resources in Hong Kong, the government should take the lead to initiate such an economical system. It is necessary to add that without such a system, much of the current effort to input codified knowledge into the school would be wasted because of the lack of the complementary collective tacit knowledge.

At Territory Level:

9-9. Mediating Essential Tacit Knowledge: Since tacit knowledge is *sticky* to the site of creation, multiplication of the essential tacit knowledge so created to other sites is difficult (Paragraph 8-32). Short encounters of school educators from different schools are necessary but far from adequate. Fortunately, one form of essential tacit knowledge is portable, namely the personal experience gained by consultants as they facilitate educational innovative professional practice at different sites, creating other forms of

essential tacit knowledge on-site and on- line (Paragraph 8-31). They have the potential to act like pollen grains fertilising the ovaries of other plants.

9-10. A Future Policy Agenda Item: Educational policymaking in the near future will have to start designing and funding an exchange system to which schools and consultants are linked. A school, planning to carry out a certain kind of innovation, will demand the kind of expertise it lacks. The system will then match the consultants with the appropriate expertise. To actualise the education reform, consultants will need to possess expertise in psychology, and/or sociology, and/or horizontal teacher teaming, and/or functional curriculum integration.

9-11. A Possible Source of Consultants: Many experienced school educators today have postgraduate degrees. Some of them have facilitated changes in their schools. The existing school system is not conducive for them to further their professional growth unless they have the opportunity to become school principals or tertiary teacher educators. These opportunities are, however, limited and many teachers prefer to remain schoolteachers. The exchange system could offer an opportunity for such experienced school educators enterprising enough to venture into consultancy, with or without completely leaving their home school. More reference can be made, for example, to the Hungarian education system, where consultants come from business and from other schools (Paragraph

1-45). With an exchange system, the professional lives of many experienced teachers would be much enriched. Education in Hong Kong would also be very much enriched in the future.

Readership of the Dissertation

9-12. Finally, a word must be said about the applicability of the dissertation to a wide audience. Although it is written with the Hong Kong policymakers in mind, practitioners, policymakers and academics in some other places might also find the dissertation useful. First, the method of deconstruction is useful in constructive, direct, and close analysis of the discourse in public policies. Secondly, the reference to Ulrich's *critical systems heuristics* leads readers to very useful critical questions both for planners involved in management of social changes to reflect on their own systems designs and for people affected by suboptimal social planning to embark on polemical arguments to fight for their own rights. *Critical systems heuristics* is also a framework that can accommodate power analysis such as Habermas' critical theory or Foucault's genealogy. Thirdly, as communication better connects the world, knowledge-based economy is becoming a world trend and *lifelong learning* is also becoming an international discourse in educational policymaking. Although Hong Kong is not a pioneer in developing the policy of lifelong learning, it is a

financial centre of the Asia-Pacific region. Its economy-related educational policy is a good reference point for many developing countries of the region. Fourthly, the school curricula of many places in this region have been following the collection-code tradition, ie being collections of independent subjects, each often supported by different interest groups. More people have begun to see the need for curriculum integration. A number of books on curriculum integration have been published recently in this region and in 2002, an international conference on curriculum integration was held in Hong Kong attracting many academics from places with influential Chinese culture. The dissertation, linking curriculum integration and lifelong learning should therefore be of interest and use to practitioners, policymakers and academics alike in the region.

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